

American Fruit Grower

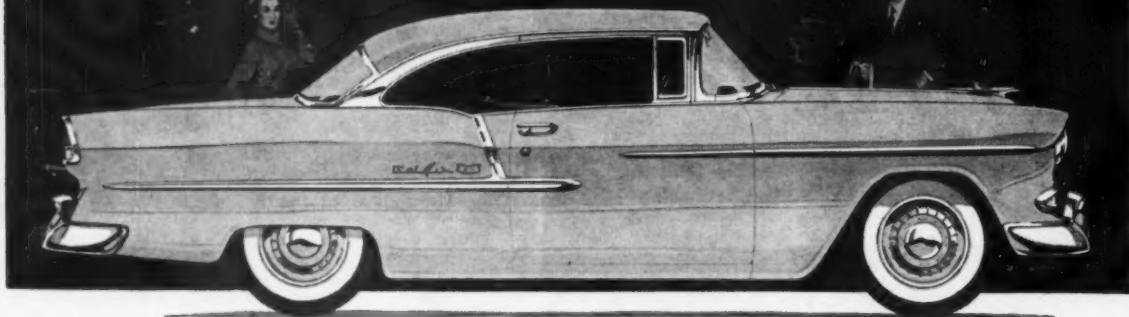
WESTERN EDITION
DECEMBER • 1954



Merry
Christmas

• LESSONS IN PRUNING •

*This is what
a new idea looks like!*



the motoramic Chevrolet for 1955

SHOW-CAR STYLING with that long, low, "let's go" look of the highest-priced cars! More room inside for hats, hips and shoulders.

A GREAT NEW V8—TWO NEW 6's. Take your choice. There's the new "Turbo-Fire V8," delivering 162 h.p. with an ultra-high compression ratio of 8 to 1. Or the two new 6's—the "Blue-Flame 136" with Powerglide (optional at extra cost) and the "Blue-Flame 123."

THREE DRIVES, INCLUDING OVERDRIVE. You can have new Overdrive (optional at extra cost) with either the "Turbo-Fire V8" or the "Blue-Flame 123." Powerglide (also an extra-cost option) is available with the new V8 or the "Blue-Flame 136." And there's a new and finer standard transmission.

NEW SWEEP-SIGHT WINDSHIELD with four-fender visibility. More glass area all around!

NEW GLIDE-RIDE FRONT SUSPENSION cushions all road shocks. New Anti-Dive Braking Control assures "heads up" stops. You'll find easier steering and handling, too.

NEW OUTRIGGER REAR SPRINGS give greater stability in cornering.

NEW HIGH-LEVEL VENTILATION SYSTEM takes in air at hood-high level. Better ventilation rain or shine.

EVEN AIR CONDITIONING, if you wish. Only one of Chevrolet's many wonderful extra-cost options. All the latest power helps are also available.

TUBELESS TIRES as standard equipment—giving you greater protection against blowouts!

● Chevrolet and General Motors introduce a whole new age of low-cost motoring with a low-priced car that looks, rides and performs like the finest on the road! It's a new idea that could be carried out only by the greater resources and facilities of the world's leading car builders. See the Motoramic Chevrolet at your Chevrolet dealer's and see how it changes everything—including all your own ideas about cars and car value! . . . Chevrolet Division of General Motors, Detroit 2, Michigan.

More than a new car . . .
a new concept of low-cost motoring!

MOTORAMIC

Chevrolet

CONTENTS

Our cover painting is by George M. Ross,
art director of AMERICAN FRUIT GROWER.

Letters to the Editor.....	4
The Question Box.....	6
Calendar of Coming Meetings and Exhibits.....	7
How to Treat Storm-Damaged Trees.....	9
By Wesley P. Judkins	
How to Prune for Eternal Youth	
A Grower's Approach.....	10
By Eldon S. Banta	
A Horticulturist's Approach.....	11
By R. H. Roberts	
State News.....	12
Fruit Pest Handbook.....	12
Windfalls.....	14
By Henry Bailey Stevens	
Brush and Sod Cutters.....	18
New Ideas in Pruning Platforms.....	24
Editorial Page.....	30

AMERICAN FRUIT GROWER

Published Monthly by
AMERICAN FRUIT GROWER PUBLISHING CO.
Willoughby, Ohio

E. G. K. MEISTER
Publisher

Editorial Staff

R. T. MEISTER H. B. TUKEY
E. K. GOULD ELDON S. BANTA

Art Director GEORGE M. ROSS

Washington Correspondent LARSTON D. FARRAR

Advertising Manager
EDWARD L. MEISTER

BRANCH OFFICES AND REPRESENTATIVES

NEW YORK, Martin-Snow Co., 140 E. 46th St.
Phone—Plaza 5-0878

PHILADELPHIA, Clayton S. Staley, Jr., 1138 Lincoln
Liberty Bldg. Phone—Locust 7-7448

CHICAGO, Peck and Billingslee, Inc., 185 N. Wabash
Phone—Dearborn 2-0292

SAN FRANCISCO, McDonald-Thompson, 625 Mar-
ket St. Phone—Yukon 6-0647

LOS ANGELES, McDonald-Thompson, 3727 West 4th
St. Phone—Dunkirk 7-5391

SEATTLE, McDonald-Thompson, 1008 Western Ave.
Phone—Elliot 3767

HOUSTON, McDonald-Thompson, 3217 Montrose
Blvd. Phone—Lynchburg 6711

DENVER, McDonald-Thompson, 222 Colorado Na-
tional Bank Bldg. Phone—Keystone 4-4669

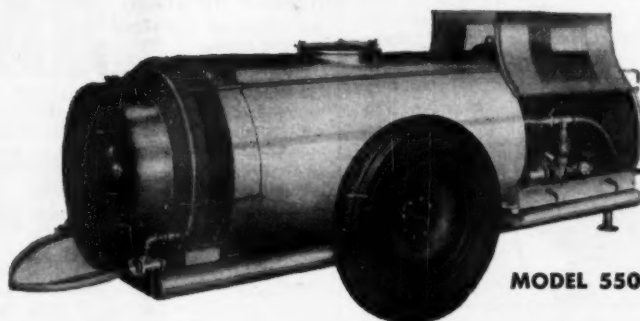
SUBSCRIPTION RATES

Domestic, 3 years \$2.00. 1 year \$1.00. Single copy
25c. Canada and foreign \$1.50 per year.

CHANGE OF ADDRESS

Please notify us if you change your address, giv-
ing us the old address as well as your new one.

PRINTED
IN U.S.A.

Now-WATER-Cooled, Too!

MODEL 550

BES-SPRAY

You now can have your choice of the latest heavy duty,
overhead valve water-cooled engine—or the powerful air-
cooled engine that has been so reliable on Besler equip-
ment. It's a fact that with Bes-Spray's tremendous output
you can do your biggest spraying jobs faster, better and
at lower cost.

★ Besler axial fan drives powerful air
stream for spray coverage to tops of tall-
est trees.

★ Adjustable deflectors may be used to
vary spray pattern as required.

★ Continuous mechanical agitation mixes
spray materials with rolling action.

★ Clogging eliminated by special Besler
strainers—quickly accessible.

★ 500, 400 and 300 gal. tanks—50 gal.
per min. centrifugal pump. 200 gal. tank—
20 g.p.m. pump.

★ Uniform distribution of dilute or con-
centrate spray.

★ Heavy duty water-cooled Ford industrial
—or heavy duty air-cooled Wisconsin engine.

★ One man operation—spray controls oper-
ate from driver's seat.

CONVERT YOUR SPRAYER WITH

BES-BLO

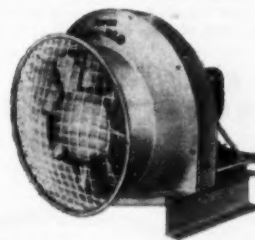
for orchard or row crop.

Modernize to efficient air stream operation.

3 SIZES—there's one to fit your sprayer.

Ask your dealer for a demonstration, or
write us for full information and your
nearest dealer's name.

Eastern Assembly: Davenport, Iowa



Bolts or welds to your sprayer in minutes!



BES-VAL...the quick shut-off valve. Ball action, instant full
flow, pressures to 1,000 lbs. Ratchet or standard on-off controls.

Send coupon for free literature

BESLER CORPORATION, 4053 Harlan Street, Emeryville, Oakland 8, California

Send me free literature on:

- ☐ BES-SPRAY Sprayers ☐ BES-BLO ATTACHMENTS
☐ BES-SPRAY Row Crop Sprayers ☐ BES-VAL Shut-off Valve
☐ BES-KIL Concentrate Sprayers

NAME _____

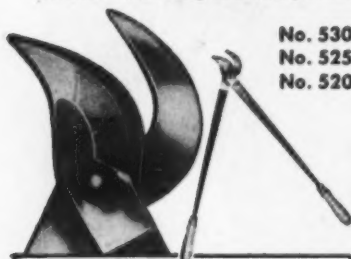
ADDRESS _____

TOWN _____

STATE _____

NEW SEYMOUR SMITH TIFFANY PRUNER

Now two great names combine in the world's finest long handled pruner.



No. 530
No. 525
No. 520

The TIFFANY double cut, efficient "draw-in" cutting action and 100% hammer forged alloy steel parts PLUS the Seymour Smith improved bolt and nut joint, through handle and riveted grip fastening and thinner cutting edges.

3 SIZES: 30" (\$6.25)
25" (\$5.95) 20" (\$5.75)

"TELEPHONE" TREE PRUNERS

Reinforced malleable iron head. Tempered steel blade. Compression coil spring. Spruce poles with telescoping ferrule joints. Cable chain works through ball bearing pulley. Cuts up to 1".

No. 11-18, Complete pruner with rope and 18' pole..... \$16.25
No. 11 (Pruner Head only) \$4.40
Prices for No. 12 Head (for 1 1/2" cutting) and extensions on request.



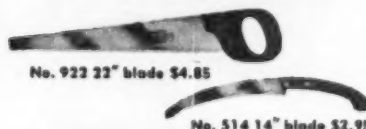
PROFESSIONAL PRUNER



No. 124 8" No. 125 9"
\$3.50 \$4.00

The standard "Double-Cut" pruner for the expert. Also, the finest of them all, No. 90, 8". \$5.50

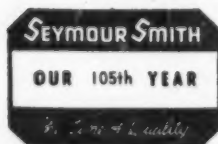
NEW, FINEST EVER PRUNING SAWS



No. 922 22" blade \$4.85

No. 514 14" blade \$2.95

A new Seymour Smith development, with blades of finest Swedish steel. Fastest, easiest cutters on the market. Complete line of 6 models covering all requirements up to chain saw work.



Seymour Smith & Son, Inc., 2112 Main St., Oakville, Conn.

Prices slightly higher Denver and West

See your dealer or write for free, descriptive literature.

LETTERS TO THE EDITOR

Ground Sprays for Mouse Control

Dear Editor:

In the September issue under "Coming Next Month" we were promised an article on ground sprays for mouse control. After waiting all month for this article, it did not appear. Since this is the time of year for such work I would like to receive my information now.

North Haven, Conn.

M. Sinoway

Dear Editor:

In regard to "Coming Next Month," I see you have an item listed on ground sprays for mouse control. If there is such a spray I would like to know the name and manufacturer of it. I have 200 fruit trees and have quite a little trouble with mice. Southbury, Conn.

Fred Kaeser, Jr.

To help readers Kaeser and Sinoway we sent them advance copies of the story on mouse control which was scheduled for our October issue but didn't appear until the November number. Keeping mice out of the orchard is a serious problem and, as the article points out, ground sprays of endrin show considerable promise for some areas. —Ed.

Interesting Experience with Albritton Strawberry

Dear Editor:

In the first week of November, 1953, I set out around one and one-half acres of Albritton strawberries. I set the plants from four to eight inches apart. I used about 500 pounds of 4-10-6 fertilizer on them when they were planted and around 500 pounds the first of January.

We started picking strawberries around April 25 and in over a period of six weeks we picked 200 twenty-four pint crates. The berries were of good quality and above average in size—all of them grading U. S. No. 1.

We plan to have plants ready for shipment around the middle of October.

Teachey, N. C.

David J. Wells

Correction in Peach Annual

Dear Editor:

This is to call attention to a printing error in the article, "Research progress on peach mosaic and the phony disease of the peach," in the 1954 Annual Report of the National Peach Council.

In Table 1, on page 22, peach varieties were classified by relative severity to the peach mosaic disease. The varieties listed as "slightly damaged" should have read "severely damaged," and those listed as "severely damaged" should have read "slightly damaged."

The disease is hard to diagnose in slightly damaged varieties, and as such represents a hazard in areas where roguing is used as a control procedure. Conversely, in areas where roguing is not practiced, growers will want to grow the varieties that are not severely damaged.

Urbana, Ill.

M. J. Dorsey,

Sec.-Treas.

National Peach Council

Those readers who do not have a copy of the Peach Annual can write to Dr. Dorsey at 1502 S. Lincoln St., Urbana, Ill., for the 96-page booklet covering such subjects as varieties, packaging, growing methods, and selling.—Ed.



This FITCHBURG CHIPPER converts orchard prunings into valuable LOW COST MULCH



Leading fruit growers

have found it really pays in better fruit and better finish to chip their prunings and thinnings, and leave the chips around the base of the trees as a moisture holding mulch.

One well-known grower says:

"Our Fitchburg Chipper is one of the best investments I have ever made, and has already paid for itself. I believe the chip mulch to be far better than hay as it will not burn and will last a lot longer."

For as little as \$650

you can get a suitable Fitchburg Chipper for orchard work with the patented Fitchburg Safety Spring so essential to smooth operation.

FREE FOLDER gives you the facts!

Tells how to use low-cost wood chips on your farm. Gives ways to earn extra money, technical data for the Fitchburg Chipper, model types, specifications. Send for your folder today!



FITCHBURG ENGINEERING CORPORATION

Dept. 1112, Fitchburg, Massachusetts

Send me the new Fitchburg Chipper Folder. I am interested in Wood Chips for:

Please Check

☐ Fruit tree mulch

☐ Garden or berry mulch

☐ Soil enrichment

☐ Stable bedding

☐ Poultry litter

☐ Farm roads, field lanes

Name _____

Address _____

Town _____

State _____

AMERICAN FRUIT GROWER

APPLE SCAB INSURANCE?

the closest thing to it

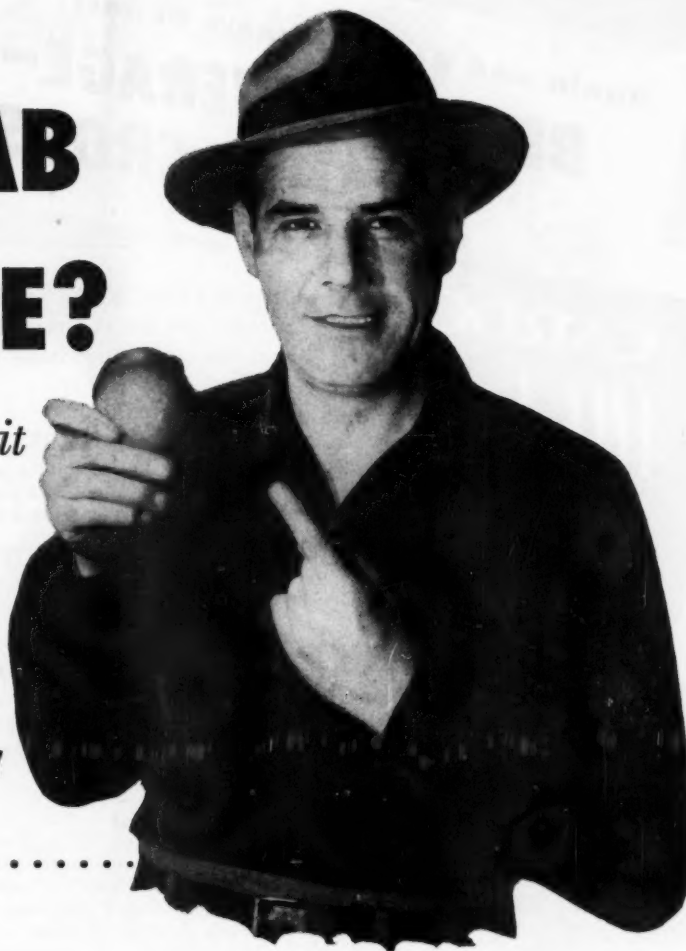
is

Crag

Trade-Mark

FRUIT FUNGICIDE 341
(A GLYODIN SOLUTION)

PLUS PHENYL MERCURY



.....

You can't buy insurance against apple scab but you can buy the closest thing to it—a combination of Crag 341 glyodin plus liquid phenyl mercury. This spray program combines the long lasting protection of Crag 341 and the after-rain control of liquid phenyl mercury. Six years of grower use have shown that this combination gives you greater safety and better scab control—especially during prolonged intermittent wetting, when it is difficult to tell when scab infection periods start and stop.

In a recent comparison of fungicides, Crag 341 used with liquid phenyl mercury in the early sprays, followed by Crag 341 in the cover sprays, gave the best finish. This program means more extra fancy apples in your crop and more money in your pocket.

Crag 341 is a clean fungicide—it's easy and pleasant to handle and leaves no unsightly residue on the leaves and fruit—Use It and See!

Crag FRUIT FUNGICIDE 341
Trade-Mark

is a product of

CARBIDE AND CARBON CHEMICALS COMPANY

A Division of Union Carbide and Carbon Corporation

30 East 42nd Street **UCC** New York 17, N. Y.

"Crag" is a registered trade-mark of Union Carbide and Carbon Corporation.

Again and Again Owners Report **BETTER COVERAGE— CLEANER CROPS**



**ONE MAN
DOES THE JOB!**
Tractor Seat Control gives you instant control—on, off or to either side.

Only CARDOX Aqua-Jet Sprayer combines these three features you must have to do your job best:

1. AQUA-JET HEADS

Adjustable, impinging jets that give any desired pattern with lowest pressure drop.

2. MECHANICAL AGITATION

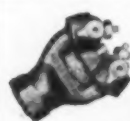
Spray material is always thoroughly mixed—never too "strong" or too "weak."

3. HIGH PRESSURE PUMP

Gives you the powerful "punch" needed for long-range protection and complete coverage.

This combination of features—basic and exclusive with the CARDOX Aqua-Jet Sprayer—assures you of more effective spraying. You can always put the spray where you want it... in the pattern you want... with uniformly mixed material... and with least possible waste, using bulk, semi-concentrates or concentrates!

If You Own a High Pressure Sprayer



AQUA-JET HEADS
—available only on CARDOX Aqua-Jet Sprayer and CARDOX Aqua-Jet Blower. Eight of these twin impinging heads atomize spray, saturate trees to a distance of 40 feet. Easily adjusted for all patterns.

Get

BETTER SPRAYING with Aqua-Jet Heads

Plus ONE MAN OPERATION
at Much Lower Cost!

Turn your high-pressure sprayer into an efficient one-man rig by adding the easily attached CARDOX Aqua-Jet Blower! Get the super performance and coverage of Aqua-Jet adjustable, impinging jets—plus high velocity blower air-stream—plus optional* tractor seat control!

*Furnished at slight extra cost.

**GET BETTER SPRAYING RESULTS AT
LOWER COST**

See your Aqua-Jet dealer—or write us for his name.

CARDOX CORPORATION

BELL BUILDING • CHICAGO 1, ILLINOIS

Factories at:

San Jose
California

Monroe
Illinois

Ottumwa
Iowa

THE QUESTION BOX

Don't be perplexed! Send us your questions—no matter how big or small. A three-cent stamp will bring you an early reply. Address: The Question Box, AMERICAN FRUIT GROWER, Willoughby, Ohio.

DIELDRIN SPRAYS

Is dieldrin compatible with DDT, Bordeaux, and parathion?—Ontario, Canada

According to our Compatibility Chart, yes, but be sure to follow the directions of the manufacturer as given on the label on the can or bag. Remember that it is safer to mix wettable powders than liquid forms because sometimes certain solvents and emulsifying agents used in making the liquid formulations may change the compatibility.

PEACH BORER

In my last issue I read of a product advertised for control of peach borer. I misplaced my copy. Can you tell me who manufactures it?—New Jersey

Para-Scalecide is the name of the product, manufactured by the B. G. Pratt Company, 163 River St., Hackensack, N. J.

CHAIN SIZING BELTS

Where can I get chain sizing belts for apple graders?—Tennessee

Try any one of the following: Food Machinery and Chemical Corporation, John Bean Division, Lansing, Mich.; Lobe Pump & Machinery Co., Gasport, N. Y.; Tew Manufacturing Corp., Fairport, N. Y.; The Trescott Co., Inc., Fairport, N. Y.; Wayland Machinery Co., Coveseville, Va.

PEACH YELLOWS

I would like to know if my peach trees have the yellows disease, as many yellow leaves have been falling since August 15. I set out 50 new peach trees this year. They are doing fine and are not dropping any yellow leaves. We had plenty of rain in August and I watered them all through July.—Illinois

I doubt if your trees have the yellows disease. It is not uncommon for peach trees to lose their leaves shortly after harvest, especially when the spray schedule has included caustic-type fungicides such as lime sulfur. Production of slender, upright-growing shoots makes peach yellows easy to diagnose. In addition, fruits on affected trees ripen prematurely and are of inferior quality, usually with a bitter taste.

ORCHARD MOWING

I would like more information about whirling horizontal mowers used by the English growers which you mentioned in the August issue.—South Africa

The practice of mowing orchards much as one might mow a lawn is becoming more and more popular in England. Some remarkable orchard performances are achieved where the grass is kept short by regular mowings. One of the machines which they use is the Hayter Rotary Grass Cutter, manufactured by Hayter's Sales Limited, 5 Spellbrook Lane, Bishop's Stortford, England. This machine consists of three horizontal rotary mowers in tandem. Two of them run fairly well back of the tractor while the third runs under the tree.

APPLE BORER

What can I do to protect my trees from the apple tree borer?—Nebraska

We have sent our Nebraska reader a copy of No. 37 in the "Fruit Pest Handbook" series which appears each month in AMERICAN FRUIT GROWER.

AMERICAN FRUIT GROWER

CALENDAR OF COMING MEETINGS & EXHIBITS

Dec. 1-2—Connecticut Pomological Society 64th annual meeting, Hotel Bond, Hartford.—S. P. Hollister, Sec'y, Storrs.

Dec. 2—Arkansas State Horticultural Society 75th annual meeting, Springdale.—Earl J. Allen, Sec'y, Fayetteville.

Dec. 2-3—Kansas State Horticultural Society annual meeting, Manhattan.—W. G. Amstein, Sec'y, Manhattan.

Dec. 2-3—Oregon State Horticultural Society annual meeting, Corvallis.—C. O. Rawlings, Sec'y, Corvallis.

Dec. 4-5—New Jersey State Horticultural Society annual meeting, Hotels Claridge and Marlborough-Blenheim, Atlantic City.—Ernest G. Christ, Sec'y, New Brunswick.

Dec. 6-8—Washington State Horticultural Assn. 50th annual meeting, Capitol Theater, Yakima.—John C. Snyder, Sec'y, Pullman.

Dec. 7-8—Oklahoma Pecan Growers Association annual meeting, Pauls Valley.—Fred LeCrone, Dept. of Hort., Oklahoma A & M College, Stillwater.

Dec. 7-9—Michigan State Horticultural Society annual meeting, Civic Auditorium, Grand Rapids.—H. D. Hootman, Sec'y, East Lansing.

Dec. 9-10—Nut Growers Society of Oregon and Washington annual meeting, Multnomah Hotel, Portland.—C. O. Rawlings, Sec'y, Corvallis.

Dec. 9-10—Tennessee State Horticultural Society annual meeting, Knoxville.—A. N. Pratt, Sec'y, 403 State Office Bldg., Nashville.

Dec. 10-11—Utah State Horticultural Society annual meeting, Hotel Utah, Salt Lake City.—A. Stark, Acting Sec'y, 2225 So. 5th East, Salt Lake City.

Dec. 14-15—Peninsula Horticultural Society annual meeting, Capitol Grange Hall, Dover, Del.—Robert F. Stevens, Sec'y, Box 150, Newark, Del.

Meetings in 1955

Jan. 3-4—Missouri State Horticultural Society annual meeting, Columbia.—W. R. Martin, Jr., Sec'y, Columbia.

Jan. 4-6—Massachusetts Fruit Growers Assn. 61st annual meeting, Worcester.—A. P. French, Sec'y, Amherst.

Jan. 5-6—Maryland State Horticultural Society 57th annual meeting, Hagerstown.—A. F. Vierheller, Sec'y, College Park.

Jan. 6-7—Kentucky State Horticultural Society winter meeting, Louisville.—W. W. Magill, Sec'y, Lexington.

Jan. 7-8—Western Colorado Horticultural Society winter session, Mesa College, Grand Junction.—L. L. Mariner, Sec'y, Grand Junction.

Jan. 11-13—Indiana Horticultural Society annual meeting, Murat Temple, Indianapolis.—R. L. Klackle, Sec'y, West Lafayette.

Jan. 18-20—Maine State Pomological Society annual meeting, Lewiston Armory, Lewiston.—F. J. McDonald, Sec'y, Monmouth.

Jan. 19-21—New York State Horticultural Society annual meeting, Rochester.—D. M. Dalrymple, Sec'y, Lockport.

Jan. 24-26—Virginia State Horticultural Society 59th annual meeting, Hotel Roanoke, Roanoke.—John F. Watson, Sec'y, Staunton.

Jan. 24-25—New Jersey Farmers Week, Trenton.—Fred W. Jackson, Director, Div. of Inf., Dept. of Agr., Trenton 8.

Jan. 26-28—New York State Horticultural Society eastern meeting, Kingston.—D. M. Dalrymple, Sec'y, Lockport.

Jan. 31-Feb. 3—United Fresh Fruit and Vegetable Association annual meeting, Hotel Commodore, New York City.—Association headquarters—777 14th St., N. W., Washington 5, D. C.

Feb. 9-11—Ohio State Horticultural Society annual meeting, Neil House, Columbus.—C. W. Ellenwood, Sec'y, Wooster.

Feb. 14-16—National Peach Council annual meeting, in joint session with Pennsylvania State Horticultural Assn., York, Pa.—M. J. Dorsey, Sec'y, NPC, 1502 S. Lincoln, Urbana, Ill.; John U. Ruef, Sec'y, PSHA, State College, Pa.

Aug. 16-20—Centennial of Farm Mechanization, Michigan State College, East Lansing.—A. W. Farrall, Head, Agr. Engr. Dept., MSC, East Lansing.

Paint Brush Marks Pruning Cuts

WELL-KNOWN fruit grower Ben Drew of Middlesex County, Westford, Mass., ties a narrow paint brush on the end of a long cane pole (type that rugs are rolled on) and with a bucket of white paint, sets out through the orchard marking the pruning cuts on the underside of the branches.

This method saves Drew considerable time as he can mark cuts high up and work ahead of inexperienced help so they'll know what and where to cut.—Charles L. Stratton

DECEMBER, 1954

Results this year prove...

CAPTAN
50-W

*delivers
MORE*

**spray protection
per dollar
per pound
per acre!**

Reports now in for the year prove that progressive growers who use Captan 50-W in their spray program *profited* in every way!

The results? Maximum disease control—better fruit finish—larger fruit size—longer storage quality. This *all adds up to* highest market return!

Your dealer has these Stauffer products:

DDT 50-W • Malathion 25-W
Parathion 15-W (Dustless)
Oxex 50-W • Aramite • Paraffin
Systox • Dieldrin 50-W
• DDD 50-W

Magnetic "70" Sulphur Paste
Magnetic "95" Wettable Sulphur
Magnetic "90" Dusting Sulphur
"Crown" Brand Wettable
Sulphur
"Perfection" Brand Dusting
Sulphur

**Stauffer Chemical
Company**

380 Madison Ave., New York 17, N.Y.
Sales Offices in all principal cities



Stauffer
CHEMICALS
SINCE 1890

*"Look for this
trademark of quality!"*



this famous brand goes to market in

VISQUEEN[®] film

the ink stays on—
it won't rub off



VISQUEEN is stronger—won't split, crack, shatter or run.

VISQUEEN is more uniform—yields more units per pound of film.

VISQUEEN won't block—keeps packaging lines at top speed.

VISQUEEN has body—packages are easily filled.

VISQUEEN stops moisture loss—produce won't dry out or wither.

VISQUEEN is economical—cuts package costs as much as in half.

VISQUEEN improves sales, cuts spoilage loss at point of sale. Converters of **VISQUEEN** film will be glad to help you apply this superior product to your packaging lines. The coupon will bring their assistance.

Important! **VISQUEEN** film is all polyethylene, but not all polyethylene is **VISQUEEN**. **VISQUEEN** film is produced by process of U.S. Patents No. 2461975 and 2632206. Only **VISQUEEN** has the benefit of research and technical experience of The **VISKING** Corporation, pioneers in the development of pure polyethylene film

VisQueen® film... a product of

THE VISKING CORPORATION

World's largest producers
of polyethylene sheeting and tubing

Plastics Division, Terre Haute, Indiana

In Canada: **VISKING Limited, Lindsay, Ont.**

In England: **British VISQUEEN Ltd., London**



tell
me
more!



The **VISKING** Corporation, Box AF12-1410, Plastics Division, Terre Haute, Indiana

Send me names of converters of **VISQUEEN** film serving my area.

Name _____ Company _____

Address _____ City _____ Zone _____ State _____

AMERICAN FRUIT GROWER



Apple tree recovery when tree was left on ground after being blown down. Branches have turned upward and a good bearing surface has developed.

How To Treat **STORM-DAMAGED TREES**

Better check the temptation to pull them upright, or you may cause more damage

By **WESLEY P. JUDKINS**

Virginia Polytechnic Institute

HURRICANES Carol, Edna, and Hazel caused widespread damage to orchards in eastern United States. Fruit growers are now confronted with the problem of salvaging or removing the trees which were blown down.

The first thought of most fruit growers is to attempt to pull the trees back up and brace them until the root system becomes re-established. Previous experience with apple trees

which have been blown down has demonstrated that many difficulties are involved in this operation. A large number of trees were straightened up and braced in Connecticut following the hurricane of 1938. It has been evident for a number of years that a considerable amount of this work may have been wasted effort.

It seems impractical to pull back trees which are more than 20 years old. This may be a good time to remove middle-aged and old trees which have not been too profitable in recent years. Young trees may be worthy

of a salvage operation, but in many cases a vigorous young tree may make better recovery if left on the ground than when pulled to an upright position. This is particularly true if the ground was soft and the roots were twisted in the ground with relatively few broken roots sticking up in the air.

An excellent illustration of the type of growth trees may make when lying on the ground can be seen in one of the orchards of the Graves Brothers of Syria, Va. Several years
(Continued on page 20)



Apple trees blown down with only moderate root injury may recover best if left as they are without any attempt to pull them erect.



Trees with considerable root injury may need to be pulled upright and have seedling trees insured on damaged side to replace broken roots.

HOW TO PRUNE

A GROWER'S APPROACH

Fruit grower Alex Gale leaves branches other growers cut off, keeps his apple trees low-headed

By ELDON S. BANTA

ALEX GALE of Sodus, Mich., believes that by keeping his apple trees young and vigorously growing he can offset many of the troubles that so often afflict mature orchards.

The key to Alex's method is his system of pruning, which in many respects is contrary to conventional pruning systems. However, he has eight years' experience to back up his pruning ideas. He is even more enthusiastic about them now than he was at first, mostly because he has proved to himself that his system is sound.

The Gale system of pruning consists of heading back terminal branches, removal of excessive watersprouts, moderate thinning of side branches, and removal of only a small amount of wood from the inside of the tree. Tree height, roughly about 12 feet, is controlled by keeping top branches headed outward and removing those which grow straight up.

Pruning begins on the outside of the tree, always. Terminal growth is cut back so the tree remains within definite height and spread. Lower branches are maintained slightly longer than the higher ones so that sunlight can get to all branches to help color and size up fruit.

For fruiting wood Alex prefers those branches that hang down, the ones most growers would take out. These he feels have stronger crotches and will not split so easily. The net result is a semi-dwarf tree.

This is how Alex Gale arrived at his pruning system: In 1945 he had 22 acres of 12-year-old apple trees that had been set 36 feet apart on the square with another tree in the center of the square, thus making only 21 feet between all trees. Originally,

Alex Gale alongside Golden Delicious apple tree from which watersprouts had not yet been removed. Lots of bearing spurs are in center of tree.

Golden Delicious tree ready for next season's growth and production. Only small amount of prunings lie beneath tree—all the pruning that is necessary to keep tree young and productive.

Alex had intended to pull out the center trees when crowding took place. But when that time came, he, like so many growers, just didn't want to take out those young and productive trees. He pondered as to how he could leave them and keep on growing heavy, high quality apple crops. About the only way to accomplish this, he reasoned, was to keep the trees dwarfed, and that would have to be done by careful, special pruning methods.

The first year, 1945, he lowered the trees six to eight feet, and that was all the drastic pruning he did. Next year detailed pruning and shortening of side branches took place. And then the trees began to take on the shape Alex had hoped for. Very little wood was removed from the inside of the trees, as this was to become the future bearing area when outside branches were pruned back.

This is contrary to most pruning
(Continued on page 23)



FOR ETERNAL YOUTH



Before and after topping old Delicious apple tree (above and right). Height is reduced by taking out tallest large branches. Weak wood is cut "in half."



A HORTICULTURIST'S APPROACH

Four-year experiments at Wisconsin prove "snipping" gives old orchards new life, promotes annual bearing

By R. H. ROBERTS
University of Wisconsin

THE system of pruning old apple trees to produce large fruits like those on young trees which we started four years ago has had an interesting by-product. It has proven to be a practical means of entirely regaining youth for old trees. The principle used is not to prune out the old weak wood resulting from age but to keep it and cut it "in half." This stimulates a strong, new growth like young trees have, with large leaves and large fruits. The tree is no longer "old" after making this type of growth.

The reason branches become weak with age is because they make on the average about a quarter less growth in length each year. After six to seven years a fairly vigorous shoot makes very little growth on the end. This also means small apples, as there is a direct relation between branch vigor and the size of fruit it bears. Long growth is necessary to have large apples.

Old trees to be "snip"-pruned should be heavily topped. If the bottom wood is to bear large apples there is no need to keep the high wood. Do not cut the top back by small cuts,

but lower it by entirely removing the tallest one or two main branches.

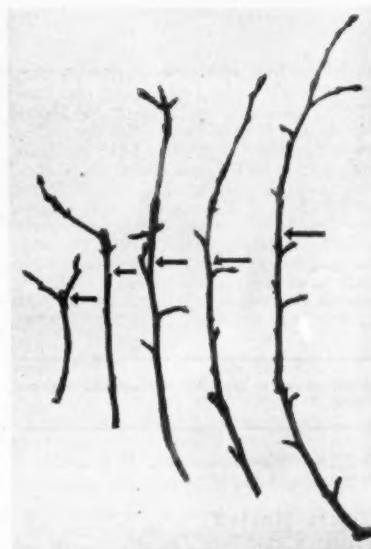
A little more nitrogen than is usually applied is needed on snipped trees to produce the growth which the numerous cuts will stimulate.

Do not prune a McIntosh tree by this system or it will make so much growth it will become over-vegetative and unfruitful. Use this type of cutting only on those varieties which tend to overload with blossom buds in alternate years. Among these are Duchess, Transparent (this clusters badly and needs chemical thinning), Wealthy, Red and Yellow Delicious, York, Jonathan, etc.

Naturally this invigorating procedure would not be used at a time when there is fire blight present in the orchard.

The only serious mistake that can be made in snipping is to fail to cut in half all small weak branches having two or more buds. Those which are not cut will not make the desired growth merely because adjacent branches were halved.

More or less suckering will follow the lowering of the top and the snip-



With "snipping" method of keeping old trees young, weak wood is left in tree but is cut "in half," as indicated by arrows in above photo.

ping. When thinning these suckers it is very important to take out the long ones and save the short ones. It takes several years for the long suckers to make little enough growth to form blossom buds and bear fruit. The short ones will bear after another season or two of growth.

The cost of this kind of pruning is one and one-half to two hours for a 20-year-old tree. This is largely or entirely recovered at harvesttime as no small apples are produced. Also, an off-year crop can be expected, and the trees are young again. **THE END**



- Hort Meetings Loom Big on Growers' Agenda
- Virginia Fills All Available Apple Storage Space in State

Apple Dessert Queen

PENNSYLVANIA—Helen Austin, 16-year-old high school senior from Susquehanna County, became the 1954-55 Pennsylvania Apple Dessert Baking Queen at the fourth annual contest held in York during National Apple Week.

She baked two pans of apple dumplings to win the crown from a field of 27 county champions. It was the largest field of entrants, 10 above last year.

The contest was sponsored by the Women's Auxiliary of the Pennsylvania State Horticultural Association, in co-operation with the Appalachian Apple Service. More than 2,500 high school girls participated in the contest. The crown was presented by the Pennsylvania Chain Store Council.

All Growers Invited

MARYLAND—Plans are about complete for the 57th annual meeting of the Maryland State Horticultural Society. The grower-planned meeting, open to fruit growers from all over the country, will convene at Hotel Alexander, Hagerstown, January 5-6. The program will include panels and speakers on disease and insect control, irrigation, laborsaving through new gadgets in field and packing house, trends in newer apple and peach varieties, chemical thinning, marketing, and the new social security and income tax laws as they

A list of winter meetings and exhibits appears on page 7.

affect the fruit grower.—A. F. Vierheller, Sec'y, College Park.

Officers Elected

FLORIDA—Howard A. Thulberry of Lake Wales was elected president of the Florida State Horticultural Society at the 67th annual meeting in Miami Beach. He is assistant general manager of Superior Fertilizer & Chemical Co., a citrus grower, and a long-time member of the society.

Dr. Ernest Spencer, of Bradenton, and L. Rogers McLain, of Tampa, were re-elected secretary and treasurer, respectively.

The meeting, attended by more than 300 members, was one of the most successful in the society's history. A symposium headed by Dr. A. F. Camp, vice-director in charge of the Citrus Experiment Station, Lake Alfred, on the spreading decline disease was of great interest to citrus growers.

The pest responsible for spreading decline was identified in 1953 as a tiny wormlike organism, the burrowing nematode, which bores into and feeds on tree roots. The USDA in co-operation with the state of Florida has started an investigation of means needed to halt attacks by nematodes. A survey made last spring showed that the nematode causing spreading decline had

The long-awaited announcement of tolerances for pesticide used in spraying fruits and vegetables was made by the U. S. Department of Health. Announced on November 20, the law allows 60 days for exceptions to be filed.

The tolerances follow closely "unofficial" residue tolerances under which spray schedules have been worked out up to this time. If growers follow their state spray schedules or the directions on the containers, there should be little difficulty in keeping the residue within limits.

More information on tolerances will appear in the coming February Insect and Disease Control issue of *AMERICAN FRUIT GROWER*.

affected 492 groves covering 3,500 acres.—Clyde Beale, extension editor, Gainesville.

Storages Filled

VIRGINIA—Hurricane Hazel damaged orchards in the Piedmont section of Virginia far more severely than in the Shenandoah Valley. Many trees and apples were blown down, but tree damage has not been fully assessed.

Because of excessive heat in early Octo-

ber, the harvest was delayed while growers waited for conditions more favorable to color development. Growers expect to fill all available apple storage space, which has been restricted due to storage of government-owned butter and cheese.

The 59th annual meeting of the Virginia State Horticultural Society will be held at Hotel Roanoke, Roanoke, January 24-26. An excellent program has been planned, dealing with pertinent production and marketing problems. All growers from Virginia and other states in the nation are welcome.—John F. Watson, Sec'y, Staunton.

Antibiotics Used

IOWA—Apple crop was generally light in most areas, due to dry sub-soil of previous years, cold spell at blossom time, frequent rains at spraying time, and light bee activity. Fire blight varied over the state from none at all to heavy. Antibiotics were used experimentally by some growers, but they were not ready to report results

FRUIT PEST HANDBOOK

(THIRTY-NINTH OF A SERIES)

PEAR PSYLLA

THE pear psylla causes growing pears to become covered with black spots or masses of sooty mold, and in extreme cases it causes the fruit to be stunted and cracked. The leaves of pear trees may also become covered with sooty mold, and they are sometimes so devitalized and weakened that they drop.

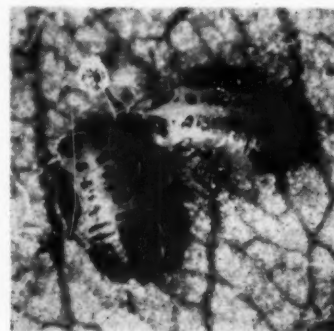
The insect sucks the sap from leaves, young shoots, and fruit. It produces large quantities of a sweet, sticky honeydew, in which the sooty mold grows and flourishes. The smothering effect of the coating of honeydew and sooty mold, combined with the removal of the sap by the insect, may in severe cases devitalize the trees seriously and lessen the yield. Light infestations are evidenced by small dark spots here and there on leaves and fruit; these are of little importance.

The pear psylla was originally native to Europe but found its way to the north-eastern part of the U.S. and the eastern part of Canada sometime prior to 1832. It soon became a major pest of the pear from the Great Lakes eastward. About 100 years later—in 1939—it was found in the Pacific Northwest. In spite of vigorous efforts at suppression it spread steadily through the Northwest and British Columbia, and has made its way to northern California.

The insect winters in the adult stage in crevices in the bark and in other sheltered spots on or close to pear trees. In this stage it is brownish in color, about one-tenth inch in length, and has two pairs of wings. It becomes active during warm periods late in the winter and early in the spring.

(Continued on page 28)

Photographs show adult pear psylla (top) and fullgrown pear psylla nymphs or "hardshells." Photographs courtesy USDA.



yet of their experiment.—Glenn Raines, Sec'y, Des Moines.

Orchard Tour

DELAWARE—Growers made a tour of the apple-growing section of North Carolina November 14-17, and are now getting ready for the annual meeting of the Peninsula Horticultural Society. It will be held at the Capitol Grange Hall in Dover on December 14-15.

Most of the 60,000 bushels of apples—primarily Rome and Stayman—which were blown down in the hurricane have been salvaged.—Robert F. Stevens, Sec'y, Newark.

No Blown-over Trees

VERMONT—Apple losses from the three hurricanes were much lighter than originally estimated. No reports of blown-over trees have been received.

Favorable weather and labor conditions contributed to a very satisfactory McIntosh picking season, with losses caused by harvest drop held to a minimum. The 1954 crop will approach 85 per cent of the previous year's crop. Indications are for a favorable blossom bud condition with a good outlook for a normal bloom next spring.—C. Lyman Calahan, Sec'y, Burlington.

Citrus displays in the future will not only look elegant but will smell that way too. Vials of liquid with orange, grapefruit, tangerine, lemon, and lime odors have been furnished fieldmen by the Florida Citrus Commission. It's up to the fieldmen whether they squirt the liquid on citrus displays to attract customers or use the vials to interest the trade.

Hurricane Damage

NEW JERSEY—Hurricane Hazel caused serious damage, with 700,000 to 800,000 bushels of apples, mostly Rome and Stayman, blown to the ground. Young trees were tilted, but breakage generally was not serious.—E. G. Christ, Sec'y, New Brunswick.

The Three R's

OHIO—Fruit growers attending the meeting of the Ohio State Horticultural Society February 9-11 may think they're back in school. Theme of the meeting is "The Three R's of Orcharding—Removal, Renewal, Rebuilding." Meetings will be held at the Neil House in Columbus.—C. W. Ellentwood, Sec'y, Wooster.

New Directors

MINNESOTA—Two new directors of the Minnesota Fruit Growers Association were elected at the annual meeting November 4 in Winona. They are Oscar Sorby of Montevideo and Wilbur Vollenwieder of La Crescent. The latter will fill the unexpired term of his brother, Henry, who is orcharding in Missouri. Directors re-elected were William A. Benitt of Hastings, F. F. Isaacs of Mahtomedi, Glenn F. Harms of Red Wing, and L. R. Lautz of La Crescent.—J. D. Winter, Sec'y, St. Paul.

Obituaries . . .

George A. Rioux of Rexford, N.Y., prominent apple grower and owner of several orchards in Saratoga County, died on October 31. He was president of the Capital District Apple Growers Association, an honorary life member of the New York State Horticultural Society, and a committeeman of the Saratoga County Farm Bureau.

Prof. G. M. Bentley, president of the Tennessee State Horticultural Society in 1949 and secretary-treasurer for nearly 40 years, died at his home in Knoxville on October 8, at 79 years of age.

DECEMBER, 1954

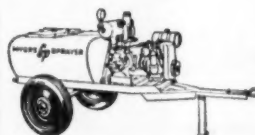
"My 16-year-old son does the spraying now that we have a Myers Concentrate rig,"



says JOHN TOWER,
Youngstown, New York



Myers Concentrate
Orchard Sprayer



Myers GP
General Purpose
Sprayer

Young Bill Tower can apply a cover spray to 135 acres of apples, peaches, pears and cherries in just one-third the time it used to take his dad and a hired man, using dilute equipment.

Tower's spray-record book also reveals he saved nearly 15,000 gallons of water in applying 14 cover sprays last season. This is because a Myers Concentrate Sprayer requires just one-fourth the water needed by dilute equipment.

Savings are important, but what about fruit quality? According to Tower, he had the finest crop of Duchess apples he ever had. His Macs looked good, too; and fruit buyers told him his cherries were among the finest in the county.

Many leading growers are finding concentrate spraying the Myers way can open the door to more orchard profits. Your nearby Myers sprayer dealer will gladly demonstrate the Myers Concentrate Sprayer in your own orchard. Call him today.

Myers

SPRAYERS
WATER SYSTEMS AND WATER SOFTENERS

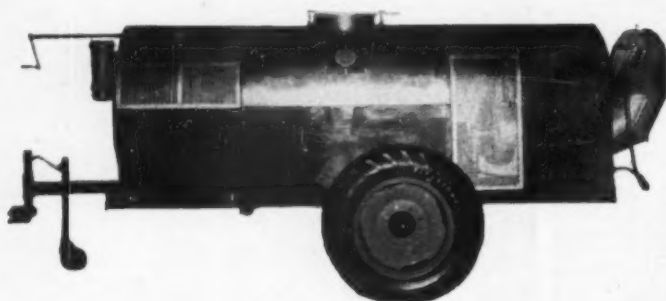


The F. E. Myers & Bro. Co., Dept. A-12,
Ashland, Ohio

ANOTHER FIRST!!

BY THE
PIONEERS
OF "CONCENTRATE" SPRAYING EQUIPMENT

THE
"STAINLESS-STEEL STREAMLINER"
(Stainless Steel Tank Standard Equipment)



AFTER YEARS OF RESEARCH
**"BUFFALO TURBINE" HAS TRIED TO PUT
"EVERYTHING THE GROWER HAS ASKED FOR"
INTO ONE UNIT**

- STAINLESS STEEL TANK (200 gal.)
- STREAMLINED TO PREVENT TREE AND FRUIT DAMAGE
- LOW INITIAL COST
- LOW MAINTENANCE COST
- LESS MATERIAL COST
- ONE MAN OPERATION
- LIGHT IN WEIGHT
- DUAL PURPOSE—EFFICIENT IN BOTH ORCHARDS AND ROW CROPS
- TWO-WAY ADJUSTABLE AXLE
- HIGH AIR VOLUME (12,000 to 14,000 cu. ft. per min.)
- HIGH AIR VELOCITY (150 to 180 M.P.H.)
- DIAPHRAGM PUMP (Especially Built for High concentrates)

Write direct to
this address
for additional
information or
demonstration.

BUFFALO TURBINE
AGRICULTURAL EQUIPMENT CO., Inc.
GOWANDA, N. Y., U. S. A.

Five
other models
for the large or
small grower.

WINDFALLS



By HENRY BAILEY STEVENS

Offered: THE Christmas season
A Monthly seems an appropriate
Prize time to propose making
windfalls real in this
column. We hereby offer an award of
\$10 for the No. 1 original contribution
published each month, reserving the
right to split the amount where such
a solution seems desirable, or to can-
cel it if in a given month no selection
seems suitable.

So, dear readers, please collect your
thoughts. Consider the interesting
human incidents that have happened
in your orchard career, whether bright
and colorful or tragic. Or tell us
in simple words those sustaining
thoughts or philosophy which have
helped you to find a fruit-farm life
worth living. Or state the human
problem you are facing, even if it
seems insoluble. Perhaps some un-
expected help will appear.

Our hope is that this column may
serve to draw out some of the under-
lying faith which keeps an orchard
family going in these tumultuous
times. If you wish to be published
anonymously, we will respect your de-
sire, but indicate your real name and
address so that we may plump the
right person on the head with a wind-
fall of 10-dollar bills.

This THE award this month
Month's goes to Barney Peltz,
Winner manager of Rainbow
Ranch Orchard, Middle
Island, N. Y., a young grower who has
been working around orchards for
about 10 years, and who nevertheless
has kept something of the spirit which
moved Robert Louis Stevenson to
write:

"Up into the cherry tree
Who should climb but little Me?
I held the trunk with both my hands
And looked abroad on foreign lands."

Mr. Peltz writes:

"Well, it's time to start thinking about
pruning again. All my tools are sharpened
and ready to go. Now what was that article
about Pruning I read in AMERICAN FRUIT
GROWER? As I sit on a limb I ponder my
next move. Here I sit, cutting branches and
twigs. Nature wants the limb to go this
way. I want it to go that way. Who will
win? The tree is too tall, the branches too
thick. This is an 'off year.' Guess I'll just
thin it a little. . . .

"My mind's made up, I'm going to try
that new chemical! Gosh, it sounds good!"

AMERICAN FRUIT GROWER

I've checked my compatability chart and find it's safe. It's been raining too much—40 hours wet at 55°; there's danger of infection. The wind's down; it's just right for spraying. . . .

"The mower's in tune and the grass is tall. I think all the rocks are picked up and the orchard floor is clean. Time to mow! What's poison ivy good for anyway? . . .

"Well, the wind's sure blowing tonight. You say 'let it blow?' Don't you know it's Mac time? Wonder what the price will be this year. Somebody turn off the heat; we need more color. . . .

"Let's see: ladders, picking bags, boxes, pickers, packers, shippers. Come on, Men! All this and I can't even go to Florida! . . .

"After all is said and done, when someone comes along and bites into an apple and his face lights up and he says 'Best apple I've ever tasted,' then it's worth it to me."

The principal interest in Mr. Peltz's contribution is perhaps not in his review of the year's activities but in his conclusion. It is no doubt extravagant. The praise of customers for his product would hardly have kept him in the orchard business for 10 years if he hadn't succeeded in making a living out of it. But the satisfaction in a job well done is one of the powerful guy wires that keep us stationed at the task.

Who's a Picker

THE J. D. Hamilton Company of Wenatchee, Wash., put it this way in one of their interesting "appleletters" last June, in commenting on the gambling spirit of California-Arizona lettuce growers:

"All power to these boys! But any Northwestern Appleman would declare those desert-lettuce rats out-and-out pikers, compared with the year 'round gamble that we guys constantly take!

"Our apple-lands are worth \$2,000-\$3,000 per acre. . . . We carry our young plantings at least 10 years as dead expense before they are self-supporting. . . . We gamble that this year's planted varieties will be in demand 10 to 40 years hence. . . . We spend at least \$1,000 per acre from December 'til next September in growing each year's crop. . . . We've already been winter-killed, droughted, spring-frosted and hailed-out, and still have a succession of deadly insects and diseases to combat. Then we carry the harvested fruit in our cold storages from October until June-July in part, all in the interests of 'orderly marketing.'"

"Anybody want in on a share of our 300 acres of Chelan-Manson apple-land? It's a beautiful gamble, and we love every day of it!"

How's this for spirit? Let's have your comments, folks.

A Thought for Christmas SANTA CLAUS deserves to be the patron saint of all orchardists. Does he not in an hour's time transform an evergreen into a Tree bearing all sorts of remarkable fruit?

Address your "Windfalls" contributions to Henry Bailey Stevens, AMERICAN FRUIT GROWER, Willoughby, Ohio.

DECEMBER, 1954



How To Beat the Labor Shortage!

Mechanized handling with CLARK trucks is a time-tested solution to the labor shortage which is facing growers and processors. And equally important, you'll make more money by drastically reducing costs. Here are some FACTS* about fruit handling with fork trucks:

1. A 25,000-bushel apple crop was handled at-the-farm with one fork truck and a crew of 3 men; previously required a crew of 7.
2. One processor reported that fork trucks on his receiving platform enable 15 men to do the work that formerly required 60.
3. In one case in Michigan, the manual-labor cost of loading cherries onto trucks was 56.5c per 100 lugs; when a fork truck handled the same job, the labor cost was 4.7c.

In addition, fork truck handling has proved that it will reduce bruising, cut grading and packing costs, reduce overtime work, reduce spillage, reduce crate and lug breakage.

Don't pass up this opportunity to eliminate headaches and save big money! Discuss it with your local CLARK dealer — he's listed in the Yellow Pages of your 'phone book, under "Trucks, Industrial."

*These and other interesting facts are contained in a booklet, "Fruit Handling With Fork-Lift Trucks," published by the Michigan State College Agricultural Experimental Station, in cooperation with the U.S. Department of Agriculture. Use the coupon to get a copy.

Industrial Truck Division
CLARK EQUIPMENT COMPANY, Battle Creek 142, Mich.

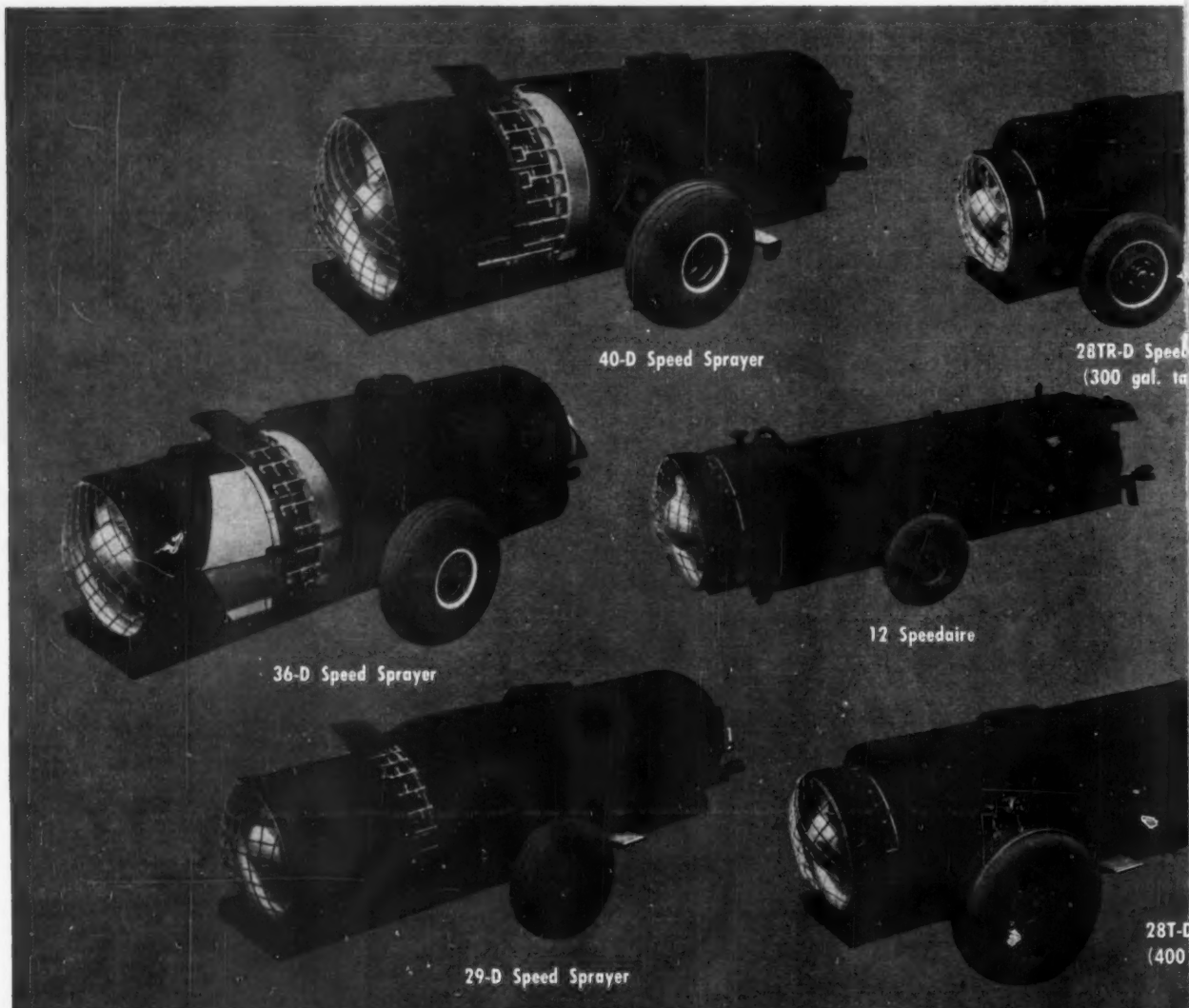
- ☐ Please send free booklet on fruit handling.
☐ Please have representative call.

**CLARK
EQUIPMENT**

Name _____
Firm Name _____
Street _____
City _____ Zone _____ State _____

FIRST AGAIN! The JO

Now! Choose the sprayer that's exactly right



40-D Speed Sprayer

28TR-D Speed
(300 gal. tank)

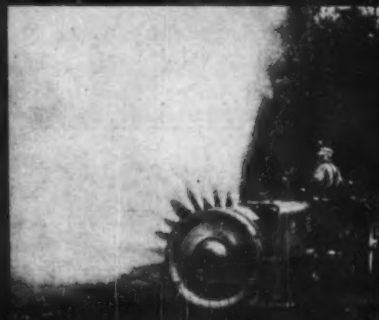
36-D Speed Sprayer

12 Speedaire

29-D Speed Sprayer

28T-D
(400)

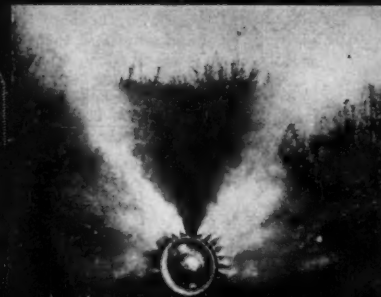
COMPLETE COVERAGE



Thorough coverage of trees from ground to top-center and complete penetration of dense foliage result from the large volume air capacity of John Bean's axial-flow fans and full-pattern distribution of spray materials.

Quickly and easily, you can tailor your spray pattern to meet orchard and wind conditions. You put the right amount of spray material where it's needed with John Bean's efficient directional controls and readily adjustable banks of nozzles.

BETTER CONTROL



JOHN BEAN "AIR-AGE 8"

for your orchard!



28T-D Speedette
(300 gal. tank)

28TR-D Speedette
(400 gal. tank)

First, in 1941, with Speed Sprayer, John Bean pioneered the "air-age" in orchard spraying. First again, in 1955, John Bean announces the "Air-Age 8" . . . EIGHT proven models of air sprayers that now make it possible for every grower to produce better fruit at less cost.

Save time, save labor, save spray materials, and do the fast, thorough job needed during critical spraying periods with the "work-rated" John Bean air sprayer that's exactly right for your orchard or grove.

Clean fruit that commands top market prices is yours when your orchard or grove is protected by a John Bean Air Sprayer. You spray fast . . . on time . . . and put the protection where you want it with accurate "zoned" spraying and complete through-the-tree penetration. Spray concentrate, semi-concentrate or dilute. You can reduce operating costs safely with the economical, one-man operation of a John Bean Air Sprayer.

Be first with John Bean in 1955! Choose the sprayer that's "work-rated" for your orchard or grove from the "Air-Age Eight"! See it in action. Ask your John Bean dealer for a demonstration.



Get your copy of the **NEW John Bean Orchard Sprayer catalog**. Write today!



John BEAN

Lansing 4, Michigan San Jose 3, California

Division of Food Machinery and Chemical Corporation

SAVE LABOR



One-man operation saves time, saves labor. John Bean's simplified, easy operating controls for engine, spray solution and basic direction are all within easy reach of the tractor driver.

Avoid run-off and drip by using concentrates or semi-concentrates. Get more effective use of materials with uniform distribution and controlled particle size. Nozzles located in air stream eliminate material "drop-out". Quick acting cut-offs.

SAVE SPRAY MATERIALS



Lick Cover Crop and Brush Problems with the

EDWARDS

"Culti-Cutter"



Field-Engineered

- FAST
- COMPLETE
- ECONOMICAL

Heavy-duty implement built specifically for cutting brush and control cover crops in orchard, vineyard. Due to light draft, Edwards Culti-Cutter can be pulled at high speed. And by use of independent rotors it may be turned easily at end of rows. Hitch is adjustable in length for any type tractor, and may be offset to work under trees.

Write
Today

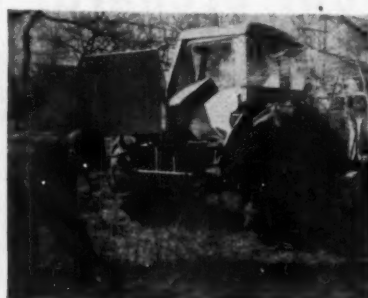
for Full
Information

EDWARDS EQUIPMENT COMPANY

4312 Main Street, Yakima, Washington

Manufacturers of Specialized Farm Equipment

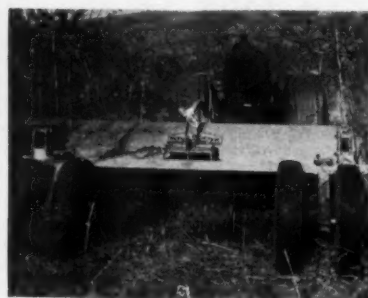
Brush and Sod CUTTERS



Brush chipper made by Fitchburg Engineering Corp., Fitchburg, Mass., chips prunings into fertilizing mulch, holds moisture above trees.



The Marden Duplex can be set at different angles to mow, harrow, chip, or cultivate, works in rough ground. Marden Mfg. Co., Auburndale, Fla.



Hardened steel-tipped balls on Roto-beater "Brute" made by Gate City Steel, Inc., Boise, Idaho, chop brush as large as 2 1/2" in diameter.



Culti-cutter made by Edwards Equipment Co., 4312 Main St., Yakima, Wash., destroys mice runways. It replaces brush rake, mowers, disc.

AMERICAN FRUIT GROWER

Versatile

HALE Centrifugal Orchard Sprayer sprays at any capacities and pressures, up to 100 G.P.M. at 600 lbs. at fast tractor speed. No relief valve necessary. The most versatile sprayer on the market.

Write for Bulletin #302.

State size of grove or orchard.
SPRAYER DIVISION

HALE FIRE PUMP CO.
CONSHOHOCKEN, PA.

Light—Compact

Compare the Hale Centrifugal Sprayer for weight—makes for easier handling with smaller tractors.

Write for Bulletin #302.

State size of grove or orchard.
SPRAYER DIVISION

HALE FIRE PUMP CO.
CONSHOHOCKEN, PA.

Fast

Sprays efficiently as fast as your tractor can run thru orchard or grove. Remote controls for convenience and saving of materials.

Write for Bulletin #302.

State size of grove or orchard.
SPRAYER DIVISION

HALE FIRE PUMP CO.
CONSHOHOCKEN, PA.

Profits and Production DEPEND ON THE TREES YOU PLANT

- BUD SELECTION
- TRUE-TO-NAME VARIETIES
- PROVED and PROFITABLE

The Greening Nursery Company, one of the leaders in bud selection, have for over 100 years given all growers the benefit of their research and improved strains which mean greater orchard profits.

AGENTS

Earn extra money, full or part time. It's pleasant and profitable to sell Greening nursery stock. Write us today for all of the details.



Send 10c to cover postage for the Greening 100-year anniversary 50-page color catalog.

THE GREENING NURSERY CO.

P. O. Box 605, Monroe, Michigan

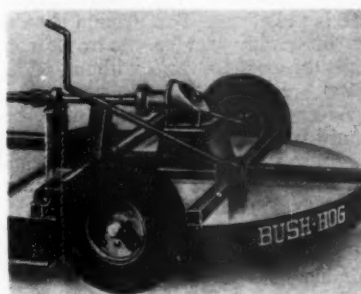
Chop prunings where they fall,
return nutrients to soil in mulch,
conserve moisture around trees



Propeller-type blades of AUSCO Rotary Shredder and Cutter don't need sharpening, won't shatter. Auto Specialties Mfg. Co., St. Joseph, Mich.



Rollamulcher, made by John Bean Division, Box 840, Lansing 4, Mich., chops prunings with rotary blades, breaks up sod, aids moisture penetration.



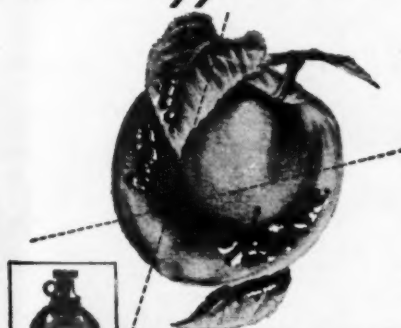
Rotary cutter of Bush Hog Sales Co., Selma, Ala., lowers and lifts automatically, saved one fruit grower \$360 in labor in two days.



Wood Brothers Mfg. Co., Oregon, Ill., makes offset rotary cutter Model 80, which gets close to trees, goes under branches too low for tractor.

DECEMBER, 1954

Prevent Apple Scab



PURATIZED[®] AGRICULTURAL SPRAY

Commercial growers all over the country praise
PURATIZED AGRICULTURAL SPRAY — wouldn't be without it. They know how it stops scab,
right after infection, even before you can see it. You too can protect your apples
against dollar losses from apple scab, and get rid of it fast, with this easy-to-use,
economical fungicide. To you it means a bigger and better crop, fatter apples.
Get PURATIZED AGRICULTURAL SPRAY now and spray early for thorough control.
Consult your local dealer or write today for full details.

Gallowhur

CHEMICAL CORPORATION

891 SECOND AVE., NEW YORK 17, N. Y.

Distributed by:

NIAGARA CHEMICAL DIVISION, FOOD MACHINERY & CHEMICAL CORP., Middleport, New York

GENERAL CHEMICAL DIVISION, ALLIED CHEMICAL & DYE CORP., 40 Rector Street, New York 6, N. Y.

"BUD" Pneumatic Pruning Equipment and Air Devices



- ★ SEE A BUD
- ★ TRY A BUD
- ★ BUY A BUD

Save
MONEY and TIME
with
"BUD"
Power Pruning
Equipment

1. Light in Weight
2. Fast, Clean Cuts
3. Will not freeze during operation
4. Positive one hand control
5. Rust Proof fittings throughout

Complete line
of Air Com-
pressors for
every Fruit
Grower's need!

WRITE, WIRE
OR CALL:

BUD-AIR CO., INC.

Pulaski, New York
Telephone, Pulaski 336

Brush Disposal Time Cut In Half

WOODS ROTARY CUTTER FOR BRUSH SHREDDING AND MOWING

Mr. Albert J. Livesey of Barnesville, Ohio told the 107th Annual Meeting of the Ohio State Horticultural Society of actual results with his Woods Rotary Cutter. He said, "We have no exact record of time saved but we feel that at least half is saved. While we have had only one season's experience, we feel that a Woods Rotary Cutter for brush disposal in the orchard is one of 'the finds' of our day. We have never, I believe, found anything about which we are so enthusiastic."



Machine shown is Offset Model 80 with orchard shield. 9 other models 42" to 114".

"Its use is not limited to brush disposal. It's the 'cat's meow' for orchard mowing." "Two or three farmers here have said that this Rotary Cutter is the best machine on their farms. The general farmer has many uses for this cutter. Corn stubble or corn stalks left after picking can quickly be put in shape for plowing or disking."

For a complete copy of Mr. Livesey's talk, send the coupon below.

WOOD BROS. MANUFACTURING COMPANY
26412 South Fourth Street
Oregon, Illinois

Please send me Mr. Livesey's talk

Name _____
Address _____
City _____
State _____

Yes, money
sure grows
on trees
when you
use



TRIANGLE BRAND COPPER SULPHATE

Control POND SCUM and ALGAE with Triangle Brand Copper Sulphate. Write today for information on how it can help you maintain healthy water conditions.

TRIANGLE BRAND COPPER SULPHATE BORDEAUX MIXTURE gives added assurance of a yield of quality fruits that means extra profits to you. It controls fire blight on apple and pear, *Mycosphaerella* leaf spot of pear, peach leaf curl, black knot of plum and prune, brown rot and leaf spot of plum and prune, leaf blight and fruit spot of quince, leaf spots of currants and gooseberries, downy mildew of grape, black rot of grape, and powdery mildew of grape.

For more than 50 years, prosperous commercial growers have obtained better yields at less cost by using TRIANGLE BRAND COPPER SULPHATE to protect their fruit crops. We recommend that you do the same.

SEND TODAY FOR OUR AGRICULTURAL BULLETINS GIVING DETAILED INFORMATION ON HOW TO USE TRIANGLE BRAND COPPER SULPHATE AND BASIC COPPER SULPHATE.



PHELPS DODGE REFINING CORP.
40 WALL ST., NEW YORK 5, N. Y. • 230 N. MICHIGAN AVE., CHICAGO, ILL.

The
"Slim-R"
KNIFE
Every Fruit Man
Should Carry One
NO FINER GIFT
FOR THE GROWER

\$3.50
POSTPAID

The slimmest, lightest, most compact fruit knife ever developed. Especially made of the finest Soligen steel throughout. Length, (closed) 4½"; weight 1½ oz. Exclusively offered by
W. D. RANDALL Jr.
Box 1988 G, ORLANDO, FLORIDA
Send 20c for knife manual of my famed hand-made knives.

NASAL CONGESTION ASSOCIATED WITH
HEAD COLDS MAY CAUSE SYMPTOMS OF,

SINUS TROUBLE, ASTHMA, HAY FEVER

Amazing New Treatment—FREE TRIAL

Thousands have received amazing, fast relief with this sensational, new treatment, from symptoms of hay fever, asthma, sinus headaches, pressure in forehead, soreness in eyes, cheek bones, top of head, back of head and down neck, temporary hard of hearing, loss of smell and taste, drip and drainage of nose and throat, can't think straight or see well at times, when caused by nasal congestion. Write for 7 DAY FREE TRIAL, POSTPAID, no cost or obligation to try it except; it is agreed you will mail it back, postpaid at end of trial period if not amazed with results.
American Laboratories, Lodi, California.

OFFER NOT GOOD IN CALIFORNIA

DAMAGED TREES

(Continued from page 9)

ago a few young trees in one of their plantings were blown down. They were left in the horizontal position. Since that time the branches have turned upward and a satisfactory bearing surface has been developed.

Care of Horizontal Trees

If apple trees are allowed to remain in a horizontal position, the branches which are next to the ground must be removed. The remaining branches will need to be thinned out to reduce the amount of small, poorly colored fruit in the center of the tree. The lowest branches on the trunk should be encouraged to develop in an erect position and produce laterals which extend back over the root.

If the ground was loosened when the trees was blown over, an attempt should be made to close up any air spaces which may exist around the roots. If the soil is of a light sandy texture, it may be jarred and tamped back in place. If the ground is heavy it will be necessary to use water to puddle the soil back around the roots. The use of liberal amounts of water is very important.

Bracing Salvaged Trees

In some cases it may seem desirable to pull the trees into a vertical position. Care should be exercised to avoid additional damage to the roots. If soil has accumulated under the trunk it should be removed before the tree is pulled up. The ground should be thoroughly wet so the roots can slide through the soil without additional breakage.

After the tree is erect it must be firmly braced to hold it in position. Guy wires in at least three directions are advisable. The stakes holding the guy wires seem to hold better if driven into the ground straight rather than at a slant. A No. 10 wire is a suitable size.

Several methods of fastening wires have been used. Some growers attach the wires directly to branches in the top of the tree and later remove the branch. In this way there is no need to be concerned about girdling, but more wire will be needed for the bracing operation. If the wire is placed around the trunk a protective loop of hose may be used to prevent girdling. This method of bracing is not as satisfactory as the ones described below.

The procedures suggested by W. H. Thies, extension horticulturist in Massachusetts, in a recent issue of *Fruit Notes* are worthy of consideration. Thies writes:

"The methods followed by two growers have been quite practical. In

AMERICAN FRUIT GROWER

go modern!
with
MILLER-ROBINSON

**POWER OPERATED
LIMB LOPPERS
AND TREE SAWS**

**CUT PRUNING
COSTS 30-50%**

Select the **RIGHT Unit**
from a Full Line
of Fourteen
Time-Tested,
Field-Proven Models

DO THE JOB QUICKLY, EASILY, ECONOMICALLY

Every Cut Sharp and Clean
No Ragged, Split or Chewed
Limbs or Branches

Made to Stand Hard Work
and Abuse

Complete Line of
Compressors and
Accessories Available

Field Demonstrations
at Your
Convenience

Write for Complete Information
and Name of Nearest Dealer!

MILLER-ROBINSON CO.
7007 Azalea Boulevard
Los Angeles 3, California

Pioneer Designers and
Builders of Air Powered
Trimming and Pruning Equipment

PORTER PRUNERS

**CAN MAKE PRUNING
YOUR EASIEST JOB!**

New designs give even greater ease in
operation and eliminate fatigue.

THE NEW 285 LOPPING SHEAR
28" long, weighs only 2 1/4 lb.
Hickory handles can be cut to
any desired length. Two sharp
blades make clean cuts that heal
quickly.

THE NEW 135 TWO-HAND PRUNER
13" long, weighs
only 15 oz. Ef-
ficiently combines
light work of one-
hand pruner and
much of heavier
work of lopping
shear. Cushion
grips for contin-
uous cutting without
tired hands.

**PORTER
QUALITY THROUGHOUT**
See them at your dealer's; if he can't
supply send check or money order
direct or write for catalog.

H. K. PORTER, INC.,
Somerville 43, Mass.

285
\$6.45

135
\$4.95

both cases the guy wire was inserted through a hole drilled in the trunk. Grower No. 1 used a galvanized and twisted type of wire, and stakes 24 inches long made by sawing diagonally a piece of fir 2x4, each piece making two stakes. A 3/8-inch hole was bored horizontally through the tree in line with the direction of pull. The ends of the wire of proper length were stapled to two stakes.

"The center portion of the wire was then doubled over, inserted through the hole and through a metal washer on the side farthest from the stakes, bent downward, and stapled about 8 inches below the hole. The washer was placed against the end of the hole to prevent the wires from cutting into the tree trunk. The stakes were then driven in with resulting tension on the wires. The angle between the wire and the horizontal was in no case more than 45°. Where more than two stakes were needed, one or two additional stakes were placed, with similarly attached wires, at selected points around the tree."

"Grower No. 2 used a somewhat heavier type of ordinary iron wire with the idea that it would hold up at

Detailed instructions for making a special machine for orchard mouse control are available from the Rodent Control Office, University of Massachusetts, Amherst.

least three years before rusting through and by that time the tree should be on the way to the re-establishment of its root system. A 3/8-inch hole was bored horizontally through the tree, but at right angles to the direction of pull. Two stakes were placed in such positions that they would provide support where most needed. The wire was then inserted through the hole and the two ends wrapped around the stakes. No staples were used. Where support in other directions was needed, an exact duplicate of this setup with two additional stakes and another piece of wire on the other side of the tree was provided, the one hole serving for both pieces of wire."

It is essential that guy wires be kept tight to prevent the trees swaying.

Replace Damaged Roots

Experience with trees blown down by previous hurricanes has demonstrated that there is very little new growth from the ends of roots which have been broken off. Therefore, some method of providing new roots should be followed.

The best method of supplying new roots is to plant young seedling trees around the base of the damaged tree and inarch them into the trunk about two feet above the ground. The inarching is done by a side graft technique using a long sloping cut on

(Continued on page 22)

**TRUE TEMPER
PRUNER NEWS**



**TRUE TEMPER
TRUE KUT PRUNER**

World's finest pruner.
Cuts crisp and clean.
Anvil-type, no turn or
twist in cutting. Dy-
namic hinge bolt and
nut keeps blades per-
fectly aligned. Brill-
iant chrome-plated
body and handle. Im-
proved blade design.
Fully tempered.

- Powerful draw-cut action.
- Replaceable brass anvil.
- New non-slip handle.



TRUE TEMPER HEAVY DUTY LOPPER

- Hardened steel blade and hook, precision ground.
- Dynamic hinge bolt and nut—won't work loose.
- Select ash handles, properly shaped and fire hardened to resist weather and wear.

Large head and powerful construction. Cuts limbs with minimum effort. Perfectly balanced for long continuous use. Blade and hook precision ground for clean, crisp cutting action.

NEW TREE LOPPER with Aluminum Tube Extension Handles

- 3-piece — can be used as 4, 8 or 12 ft. pruner.
- 30% lighter in weight — only 4 1/4 lbs. complete.
- Heavy steel blade cuts up to 1" branches.

Light weight reduces user fatigue. Stronger construction because two 4 ft. extension handles are made of aluminum tubing. Lower section telescopes into middle section for easier storage. Top section is sturdy hardwood. Bolt and wing nut assembly. Long rope attached to operating arm.

See your hardware or garden supply dealer.

TRUE TEMPER
Corporation
CLEVELAND 15, OHIO

DO IT YOURSELF CUT HIGH FOOD COSTS

WITH THE CHIEF GARDEN TRACTOR

Three models to choose from. A "Chief" and a few implements will do every garden job.

MAKING GARDENING FUN

Also cutting high grass and weeds, cultivating, spraying, clearing snow, and many other jobs are "Child's Play" with a "Chief".

Write for literature and find out how little it costs to own a "Chief".

GREAT LAKES TRACTOR COMPANY
ROCK CREEK, OHIO

NEW MODEL C Orchardkraft AIR POWER PRUNER

New Features—New Performance
Offers many advantages not available on other pruners. New air-cushioned action (pat. pending) eliminates shock when limb is cut; Air-powered valves require only slight finger pressure to operate; no oil needed; simple trouble-free, freeze-proof valves. Cuts faster, easier, won't slip off limb, works in narrower places, cuts limbs up to 1 1/4" diam.

Write today for free folder on pruners and orchard supplies—mention dealer's name.

JOHN C. BACON CORP.

Gasport, New York

- PRUNING TOOLS
- GRAFTING SUPPLIES
- TREE COMPOUNDS

Write for 72 Page Catalog

A. M. LEONARD & SON, Piqua, Ohio

Do it Much Easier and Much Faster ...with a HOMELITE Model 17—One-Man Chain Saw



BRAKE*
hp
22 pounds

*Actual dynamometer rated horsepower

For trimming, pruning and for repairing or clearing out storm damaged trees you can't beat a Homelite Model 17. Only 22 pounds, light enough to take up in a tree, it has real power... 3.5 horsepower... enough power to cut an 18 inch tree, right down to ground level, in as little as 18 seconds.

AS LOW AS

\$259

COMPLETE

The highest quality saw at the lowest possible price.

Send Coupon for Complete Information

HOMELITE CORPORATION, 6912 Riverdale Ave., Port Chester, N.Y.
Nationwide Sales and Service

Send me complete information on the Homelite Model 17 ☐

See me about a free demonstration ☐

Send me name of nearest Homelite Dealer ☐

Name

Address

Town

County

State

Every Homelite Saw is a real production saw... famous for its fast cutting, easy handling and amazingly low maintenance costs.

DAMAGED TREES

(Continued from page 21)

the top of the seedling tree and fitting this into a similar-sized opening in the bark of the trunk of the damaged tree. The beveled end at the top of the seedling should be firmly attached to the trunk with small nails and the entire wound covered with asphalt wound dressing or grafting wax.

The inarching operation involves considerable expense. It is difficult to pull the trees to a vertical position and hold them there. The guy wires are expensive to install and must be kept tight for several years. Mowing and other orchard operations are more difficult with guy wires extending out from the trees. All of these factors are reasons why the salvaging operation may not be an economical procedure, particularly with trees which are more than 20 years old.

Pruning Salvaged Trees

Regardless of whether the trees are left on the ground or are pulled erect, they must be given special care the following year. Pruning should be moderate because a large leaf surface is necessary to provide food materials to help the damaged roots become re-established. If excessive root damage has occurred it may be advisable to prune more heavily to reduce the need for water until the root system is re-established.

Fertilizer should be applied in early spring and within reach of injured roots.

Damaged trees need a liberal supply of water. If irrigation is not available, use of mulch around the trees is advisable to help conserve soil moisture. The fruit crop should be thinned heavily to reduce the demand for water and food materials.

Mice must be controlled. Damaged roots form callus tissue which is especially palatable to mice. If the ground is loose it should be firmed down. Particular attention should be given to mouse poisoning. **THE END**

Fruit Production at a Glance

	Average 1943-52	1953	USDA Nov. 1 Est. 1954
Thousand Bushels			
Apples	105,802	92,877	103,716
Eastern	43,893	38,848	49,852
Central	18,377	17,779	16,149
Western	43,532	36,250	37,715
Pears	30,466	29,081	30,327
Tons			
Grapes	2,951,090	2,696,000	2,705,100
Almonds	36,370	38,600	43,900
Walnuts	72,770	59,200	77,500
Filberts	7,936	4,960	8,650
Pecans	133,575	211,660	96,600
Improved	60,477	102,905	41,607
Wild & Seedling	73,098	108,755	54,993
Barrels			
Cranberries	787,300	1,203,300	973,500

AMERICAN FRUIT GROWER

HOW TO PRUNE

(Continued from page 10)

systems, especially the system whereby thin wood is removed from the inside of trees. Gale's thoughts on this question were that if the outside branches are shortened, more sunlight would get to the inside branches, causing them to grow into vigorous bearing wood. Thus the heavy crops would be borne on a larger tree surface, they would be closer to the main trunk, and chances of limb breakage would be greatly reduced. Now after eight years of trial all this has been realized in the Gale orchard.

With this system, heavy pruning is necessary the first two or three years to properly shape the trees, and then only light annual prunings.

Alex now has one man who does practically all the pruning during the winter months, and he does it mostly from the ground with pole pruner and shears. He keeps watersprouts cleaned out except where he may want a new branch to develop, keeps outside branches headed back to proper length, and removes just a little wood from the inside of the tree—just enough so the tree does not become dense. The job requires about 10 to 20 minutes per tree.

This pruning system has performed equally as well on all varieties in the Gale orchard, which include Delicious, Golden Delicious, Jonathan, McIntosh, and Cortland.

Alex Gale points to several advantages in following his pruning system. Less time is required for annual prunings, and no hand thinning of fruit is necessary. Alex has done no hand or chemical thinning during the past eight years, and he has had annual production on all varieties, even Golden Delicious. A bumper crop is not produced each year, but neither does Alex experience a light crop year any more.

Pickers Prefer the Smaller Trees

Another big advantage has shown up at harvesttime. Pickers want to pick in the Gale orchard, even at five cents per bushel less than they would receive in other orchards. They like to pick here because trees are smaller, fruit is thicker, and picking is faster.

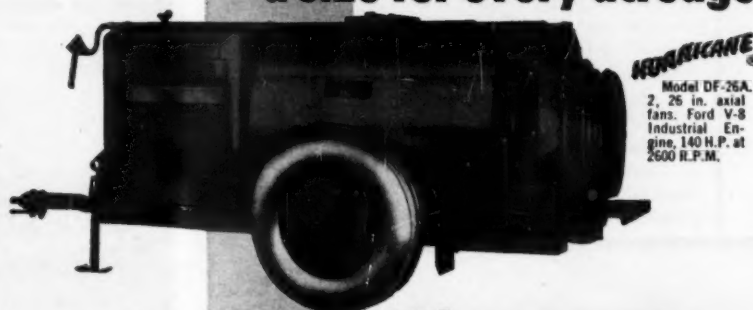
Spraying and other orchard activities are also done now with greater ease and thoroughness in the Gale orchard. Fertilization is carried out on a moderate scale. The orchard is kept in permanent sod. By keeping trees dwarfed, more can be planted per acre, which raises the per acre production. Many of Gale's trees last year picked 20 bushels per tree, and practically all above the 2½-inch size. Prunings are left where they fall.

THE END

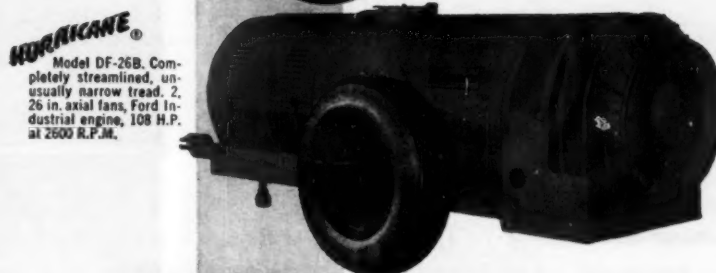
DECEMBER, 1954

HARDIE ALONE HAS IT!

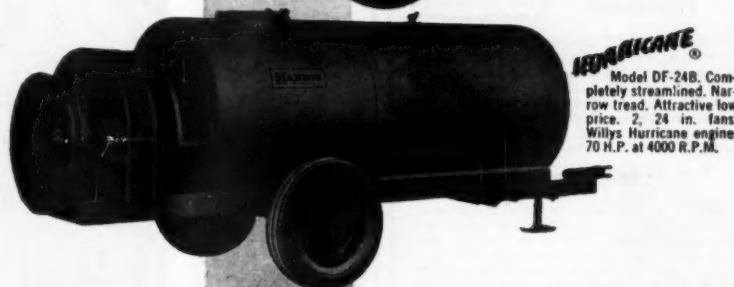
...a two-fan sprayer and a size for every acreage



HURRICANE®
Model DF-26A.
2, 26 in. axial fans. Ford V-8 Industrial Engine, 140 H.P. at 2600 R.P.M.



HURRICANE®
Model DF-26B. Completely streamlined, unusually narrow tread. 2, 26 in. axial fans, Ford Industrial engine, 108 H.P. at 2600 R.P.M.



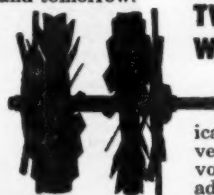
HURRICANE®
Model DF-24B. Completely streamlined. Narrow tread. Attractive low price. 2, 24 in. fans. Willys Hurricane engine, 70 H.P. at 4000 R.P.M.

Growers everywhere acclaim the revolutionary new Hardie Hurricane 2-Fan Air Blast Sprayer as the outstanding advancement in the whole history of pest control equipment.

The great Hurricane Model 26-A introduced to the grower a year ago has proved that two fans are far better than one. It has delivered absolutely unmatched performance in all fruit growing areas.

This year Hardie has perfected two more Hurricane 2-fan sprayers to meet the acreage and the budget of every grower. These new Hurricanes, Model DF-26B and Model DF-24B, establish a thrilling new perfection in streamlined design, as well as in performance. Here is your sprayer of today and tomorrow.

TWO FANS ON A SINGLE SHAFT MOUNTED WITH OPPOSED BLADES (Patent applied for)



The Hardie Hurricane fan assembly is an engineering triumph never before achieved in the sprayer industry. The multi-blade fans, scientifically spaced, provide an even, uniform air volume and velocity over the entire radius of the fan housing. No volutes nor attachments of any kind are required to adapt the Hurricane to any spraying requirement.

Ask your dealer or write for the new Hardie Catalog

HARDIE

DEPENDABLE EQUIPMENT

SOLD AND SERVICED



The Hardie Manufacturing Company, Hudson, Michigan
3825 Santa Fe Ave., Los Angeles, California
1435 N. W. Northrup St., Portland 9, Oregon
Export Dept., Book Tower, Detroit 26, Michigan

Please send catalog.

Name

Address

City State

UNSEEN THIEF

Without the proper protection the profits of your labor often vanish. Unchecked fungi are the unseen thieves who strike without warning. For exceptional protection against blight and fungus diseases, use **TC copper-based fungicides**. As basic producers of copper, Tennessee Corporation offers a copper fungicide for virtually every use.



TRI-BASIC

**TENNESSEE
TRI-BASIC
COPPER SULPHATE**

TRI-BASIC COPPER SULPHATE is a chemically stable copper fungicide containing not less than 53% metallic copper. TRI-BASIC Copper Sulphate can be used as a spray or dust on practically all truck crops and citrus crops. Control-persistent fungus diseases—correct copper deficiencies from a nutritional standpoint. Use TC TRI-BASIC Copper Sulphate.

MICROGEL

MICROGEL is very effective for the control of melanose and scab on citrus fruits; black rot, mildew and anthracnose on grapes. Microgel contains 50% copper as metallic and is chemically stable. The particle size is very fine, insuring better coverage and adherence. Microgel is also recommended for dormant spraying of peaches.

TENNESSEE "26"

COPPER FUNGICIDE is a neutral water insoluble copper compound of extremely fine particle and is especially recommended for control of Cherry Leaf Spot on sour cherries. Also very effective for controlling scab, blotch and fruit spot.

ES-MIN-EL

SOIL APPLICATION

For healthy trees and vitamin-rich fruits your soil must have the proper mineral balance. Minerals are just as essential to the health of your trees as they are to the human body. Fruits and vegetables rich in vitamins cannot grow in soil poor in minerals. Es-Min-El contains these minerals: Zinc, Copper, Manganese, Boron, Iron and Magnesium—all essential to healthy plant growth. For healthier plants and increased yield of vitamin-rich fruits, mineralize your soil with Es-Min-El.

Samples, Specifications and Detailed Information on Request.

TENNESSEE TC CORPORATION

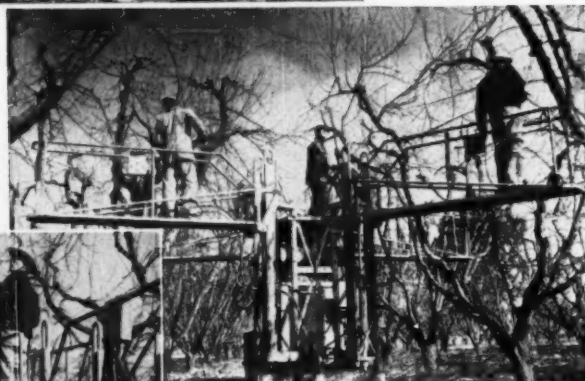
617-629 Grant Building, Atlanta, Ga.

New Ideas in PRUNING PLATFORMS

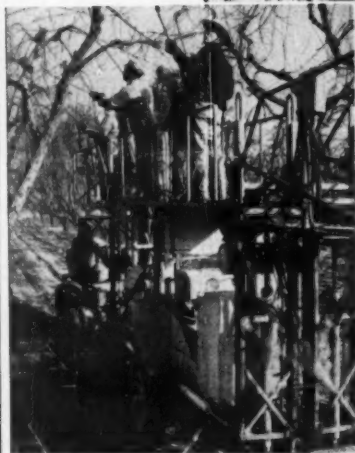
Mobile grower-designed laborsavers speed up annual tree trimming job



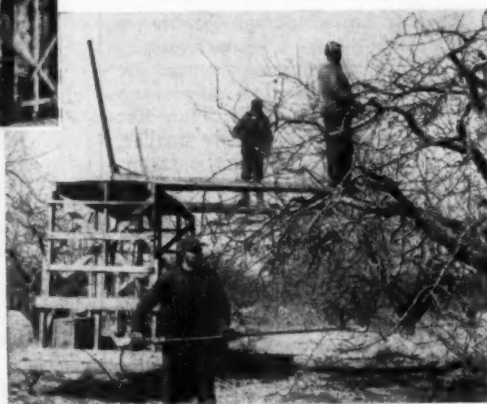
Left—Pruning platform at Crumpacker Orchards, Roanoke, Va., has three sliding catwalks, can be raised and lowered hydraulically by hooking compressor to vertical supports. Cost of the platform including truck was \$5,000. Photo by R. Aiken.



Above—Four-catwalk platform at Blue Lupin peach ranch, Delhi, Calif., has 20-foot spread. Switchbox on each catwalk permits worker to move his catwalk up, down, in, or out. Photo by R. Coppock.



Above—Swung in, Blue Lupin home-built platform is only 39 inches wide, cost \$2,700 to build. Power pruning tools, used with all pruning platforms illustrated here, are additional laborsavers.



Above—Wooden planks support workers at Pomona Fruit Farm, Appleton, N.Y. Hinged to platform with a swivel joint, planks move in any direction. When moving to another location, operator pulls back on the handle, raising the plank to clear tree limb. Photo by John Staby.

AMERICAN FRUIT GROWER



California walnut orchard with surface soil smooth for harvesting. Special machines are used to smooth the orchard floor because the fingers on the mechanical pickup machine cannot tell a walnut from a clod. (See photograph below)

Revolution in

THE WALNUT INDUSTRY

California's highly specialized English walnut industry is a lesson in mechanical operation

By **O. L. BRAUCHER**
California Walnut Growers Association

THE California walnut industry has undergone a mechanical revolution in the last few years. The old methods of knocking or shaking the trees by hand labor have largely been replaced by mechanical shakers. And machine picking is gradually replacing the stoop labor required to pick the nuts up off the ground.

I often wonder what those first California nut growers—the Spanish missionaries who planted our first walnut trees back in the 18th century—would think if they could see a modern walnut grower harvesting his nuts with a mechanical harvester. And wouldn't they be surprised to see our walnut branding machines stamp the "Diamond" brand on our commercial crop of 70 to 80 thousand tons of nuts a year!

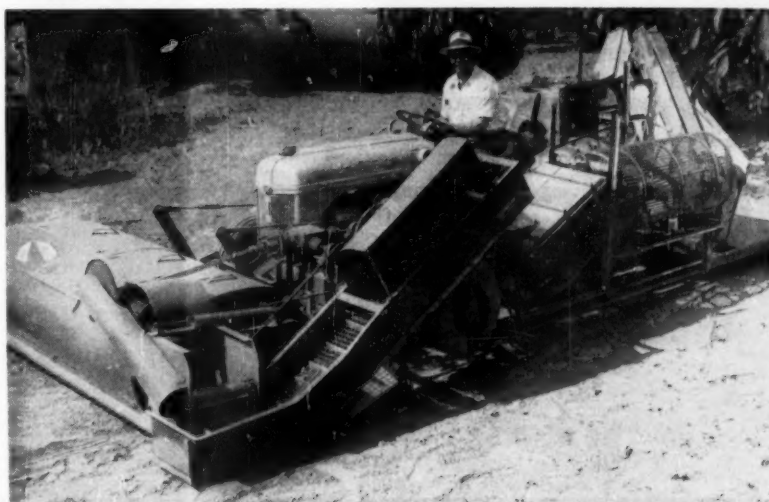
The present commercial walnut industry in California received its start from the Sexton selections in Santa Barbara County and the Gillette importations in Nevada County just after the Civil War. These two men can rightly be called the fathers of the California walnut industry.

While the walnut industry was

started in both the northern and southern parts of the state at the same time, it expanded more rapidly in the southern section. Interest in the central and northern sections lagged until just before 1920. Even as late as 1930, nearly 90 per cent of the state tonnage came from the southern part of the state.

Today only 25 per cent of the state crop is produced in the southern section. The total bearing and non-bearing acreage today is nearly 138,000 acres, compared with 97,000 acres in 1930.

The industry received a big impetus with the introduction of a walnut-branding machine that puts the "Dia-



One of several types of mechanical harvesters in use in California walnut orchards. Hood on ground across front of tractor shields pickup fingers. Cross conveyor empties walnuts and debris into elevator and thence to back of machine into bags or bulk trailers.

WESTERN SECTION

mond" name on each nutshell, thus identifying it as a California-growing nut. The California Walnut Growers Association worked for seven years to perfect the machine.

We offered a \$10,000 prize for the mechanical principle, then spent two years working out a machine to brand 2,000 nuts a minute, or a 30,000-pound carload a day. By 1926 we had 125 machines running at a cost of only five cents per 100-pound bag, or one-thirtieth the cost of small sealed cartons on which the name had previously been stamped.

The average California walnut grower owns 30 to 40 acres of walnuts that produce at least a ton of nuts

per acre after drying. The majority of these nuts will be large-sized and of first quality.

His major farming equipment consists of a medium-sized tractor and truck, cultivating tools such as a disc, a ridger, a furrowing machine, land leveler or smoother to prepare the surface soil for harvesting, mechanical shaker and harvester, bulk trailers to haul nuts from the field, a huller, and a dehydrator.

His investment in the walnut business will be between \$1,900 and \$2,000 per acre. Of this he will spend approximately \$1,200 per acre for land and trees. The irrigation water supply, either in the form of a well,

pump, and pipelines or ownership of shares or purchase rights in a water district or company would be about \$250 per acre; and his investment in farm buildings and equipment would amount to about \$475 per acre, exclusive of a house to live in.

He is a relatively stable type of farmer—he has to be to content himself with planting a tree crop which may not reach good commercial bearing for from 12 to 16 years. This points up a question a prospective purchaser should always ask. It is, "How many times has this orchard been sold in the last 10 years?" Good walnut orchards do not usually change owners with great frequency.

The walnut grower has his annual battle with insects, including the codling moth, red spider, and aphids, as most orchardists do. However, modern spray equipment, plus the newer types of insecticide, enable the conscientious farmer to do an effective job in controlling insect pests.

Specialized Business

The growing of walnuts is a specialized business, as many inexperienced persons have discovered. A few of the major factors affecting successful walnut growing are soil type, climate, water supply and quality, and variety. If any of these factors is not "right," one can expect only a mediocre orchard at best. There are many things a farmer can do to make his venture either a success or failure, but he cannot remake a shallow adobe soil into a good loam, nor can he make poor quality water good, nor irrigate properly with an insufficient water supply. By the same token, a variety suitable to the cool coastal climates of southern California can be a near-failure in the warm interior valleys.

No successful tree crop industry goes through nearly 90 years of growth without the usual ups and downs, but the rewards and successes from walnut-growing are much greater than the setbacks that occur occasionally.

THE END

NOW IN PRODUCTION

The NEW
"200" SERIES
1955
MODELS



AIR-O-FAN SPRAY RIGS

With EXCLUSIVE PATENTED Curved VANES
for Positive Pattern control

MORE POWER
NEW FORD "Y" BLOCK

ADDED STRENGTH
LOWER SILHOUETTE

GREATER PERFORMANCE
AT LESS OPERATING COST

SEND NOW FOR COMPLETE INFORMATION
ON THESE MONEY SAVING UNITS

DEALERS: SOME VERY DESIRABLE
TERRITORY AVAILABLE

AIR-O-FAN
IS THE FAVORITE
OF ORCHARDISTS
EVERYWHERE

KRAUS & NOONAN, Distributors

P. O. Box 977
Medesto, Calif.

ELECTRONIC NUTCRACKER

THE world's first electronic nutcracker is being used exclusively by Northwest Nut Growers. The group boasts that their machine is the only one to crack the walnut, separate the meat from the shell, and carry away the waste shells.

A high voltage blast explodes the walnut, and the nut meat drops onto a conveyor that carries it away for separating from the shattered shell. Cracking goes on at 1,200 pounds per hour, and breakage of meats is said to be greatly reduced.

AMERICAN FRUIT GROWER WESTERN SECTION

Pacific

NEWS AND VIEWS

On Almond Size, Fruit Flies, Water Core, and Lots More

Seek Smaller Almonds

If you grow almonds, be on the lookout for trees or a single limb of a tree that may happen to produce smaller nuts. Present trees produce almonds that are too large for the confectionery industry, which uses from 50 to 60 per cent of the almonds produced in California. Anyone who comes up with a high-quality variety which produces small almonds will find quite a demand for his tree. If you know of such a tree, or a branch get in touch with Dale E. Kester, College of Agriculture, University of California, Davis. He is in charge of a breeding program for small almonds.

For the first time in the history of Washington pear-growing, the price for canning pears was set prior to harvest by representatives of growers bargaining with the canners. Over 400 growers controlling some 26,500 tons of pears in the Wenatchee and Yakima Valleys make up the Washington Canning Pear Association.

Polyethylene Liners

It is estimated that between 750,000 and 1,000,000 boxes of Bartlett and winter pears are being packed in polyethylene lined boxes this season. Fruit put up in the polyethylene liners has a six- to eight-week longer storage period. In addition, the shelf life of the pears at retail is extended to 10 days. The liners are also recommended for use with Golden Delicious apples, to prevent shriveling and moisture loss in storage.

Low humidity and high summer temperatures make it difficult to grow Concord variety of grapes in California. The foliage sunburns, resulting in poor maturity of the fruit. However, new selections are under trial that might well substitute for the Concord. The new selections have double the usual chromosome number, and produce larger-than-normal fruits. The most promising one ripens earlier than Concord, withstands summer heat, has much larger berries, and excellent yield. Commercial tests of the juice are now in progress.

Wenatchee apples are now going south to California in trucks made of aluminum, also manufactured in Wenatchee. The big trailer and tractor is all aluminum, including the tractor cab, frame, gas tanks, and wheels, except for the driving wheels. Loaded with apples, the entire unit weighs 23 tons, an average of two and one-half tons lighter than comparable units.

Grower of the Year

Grady Auvil, widely known for the top quality apples, peaches, and pears he produces in his Orondo, Wash., orchards, has been named 1954 "Grower of the Year" for north central Washington. The unanimous selection of Mr. Grady for the honor was made by the Wenatchee Chamber of Commerce agriculture group, of which Dr. Archie Van Doren is chairman.

Water core is a baffling disease of apples for which scientists have not yet found a solution. Apples affected with water core have a watery or glassy appearance. Sometimes practically the whole apple is affected, but more often the condition is confined to spots or streaks. One theory is that water core is caused by variations in rainfall. However, California research workers now point out that high concentration of cell fluid is more responsible. Water core is most common in the arid or semi-arid sections, and it is felt that the degree of shade and the intensity of sunlight have a greater bearing on the occurrence of water core than either irrigation or fertilization.

Virus-free Sweet Cherries

California fruit growers and nurserymen who wish to propagate sweet cherries may obtain virus-free budwood from the University of California at Davis. Pomologist Reid M. Brooks says that 200 to 400 or more buds of each variety, depending upon demand, are available. Varieties included are Bing, Black Tartarian, Royal Ann, Republican, Deacon, Van, Lambert, and Burbank. Propagation with virus-free budwood may give successful take of more than 95 per cent, which is far above the average with infected budwood. In addition, the use of virus-free budwood prevents the spread of deadly virus diseases.

Three Wenatchee apples nestled in a wicker basket atop the curls of Washington State Apple Blossom Queen Carol Lee Jessup took second place in a hairdress parade sponsored by the Washington Hairdressers' Association at their state convention in Seattle. Queen Carol's hairdress was complemented by a red jersey blouse and white felt skirt on which was applied a big red apple with the words, "Miss Washington Delicious." Carol Lee's mother designed her hairdo.

Spraying Carelessness

If you or your helpers are inclined to be careless with orchard spray chemicals, get a copy of the 34th Annual Report of the Department of Agriculture of the state of California. Pages 327, 328, and 329 tell about injuries to persons and livestock from agricultural chemicals and graphically describe the dangers resulting from careless handling. One case with a happy ending tells of a young sprayer who refused to wash himself or take further precautions when a parathion spray mixture accidentally splashed in his face, and with careless bravado drank twice from a weir box from which the spray tank was being filled. He became seriously ill, but recovered after hospitalization.

Earliest grapes in the nation come from Coachella Valley of southern California. Shipments began last year around the first of June, at which time 24-pound boxes were selling for as high as \$13 on the New York market. During the middle of the season when supplies were at the heaviest the price on the same market was only about \$4 a box. Harvest ends around the middle of July.

Declare War on Fruit Fly

War has been declared, and American sprayers have been moved to the Mexican border to repel the invasion of the Mexican fruit fly. The main citrus-infesting fruit fly of Mexico, the Mexican fruit fly, destroys large quantities of fruit in Mexico and Texas. To fight off the fly, all trees within a five-mile radius of the border on the American side have been sprayed. More than 3,000 trees on residential properties and on 600 acres of commercial plantings in the area were treated. Intensive trapping operations are being carried on. The California Fruit Exchange has adopted a resolution calling for federal funds to combat the fruit fly invasion.



California walnut orchards are usually intercropped until the trees come into production. Photograph shows a four-year-old walnut orchard in southern California intercropped with beans.

ONLY AMES PIPE
has the
ABC
COUPLER



AMES irrigation pipe with the Ames Ball Coupler locks and seals itself by water pressure...no hooks, no gadgets. Systems engineered to your needs. Send your name, address for free folders.

See Ames Dealer in classified phone book, or write nearest plant.

PORTABLE IRRIGATION EQUIPMENT

W. R. AMES COMPANY
150 Hooper St., San Francisco 7, Calif.
3905 East Broadway, Tampa 5, Florida

Buy Good Used Heaters Now
... while available as result of subdivisions of Southern Calif. Orange groves.
Contact
California Heater Co.
1513 W. 2nd St., Pomona, California

Books For Your Orchard Library

DWARF FRUIT TREES

By Lawrence Southwick
A complete description of the selection, planting and cultivation of dwarf fruit trees. \$2.50

HANNA'S HANDBOOK OF AGRICULTURAL CHEMICALS

By Lester W. Hanna
Contains descriptions of over 500 commercial chemicals. Various common and chemical names and numerical designation of fertilizers, fumigants, fungicides, weed killers, insecticides, rat killers, etc., are given in this 209-page pocket-size handbook. \$3.25

WESTERN FRUIT GARDENING

By Reid M. Brooks and Claron O. Hesse
A handbook for the home gardener on fruit varieties; climatic adaptations; soil, water, and nutrient requirements; pruning and propagation; control of diseases and pests. \$4.50

THE FUNDAMENTALS OF FRUIT PRODUCTION

New Third Edition
By Gardner, Bradford and Hooker, Jr.
This new third edition brings up-to-date the latest findings in modern fruit production. Two new sections of vital importance to plant culture today have been included—Light Relations and Growth Regulators. \$9.00

Sent postpaid on receipt of remittance
AMERICAN FRUIT GROWER
Willoughby, Ohio

UTAH AND IDAHO HORT PROGRAMS

UTAH growers will be in Salt Lake City December 10-11 for the Fruit Growers Short Course and Horticultural Convention to be held at Hotel Utah, reports Acting Secretary A. Stark, of Salt Lake City.

Utah State College specialists will have a very active part in the program. They will tell how to control specific insects and diseases, such as worms and catfacing in peaches, mites, viruses and cankers of stone fruits, etc.

Prof. C. E. Scott of the University of California will tell growers about mildew control in apples and pears, also fire blight control.

Dr. John C. Snyder of Washington State College and secretary of Washington State Horticultural Association, in his two appearances on the program, will tell about new orchard plantings and renewing old orchards, as well as how cherries and peaches are grown in Washington.

Another featured out-of-state speaker will be Dr. L. P. Batjer, USDA, Wenatchee, Wash. He will bring growers up-to-date on methods of growing apples and pears in Washington, and the use of chemicals in fruit thinning and in controlling preharvest drop.

Prof. Clarence Ashton of Brigham Young University will cover a subject all growers will be interested in. He will tell how Utah growers can increase yields.

Raspberries and strawberries will also receive attention in the two-day program loaded with material growers can use.

Idaho Growers to Meet in Boise

Speakers selected thus far for the 60th annual meeting of the Idaho Horticultural Society to be held February 10-11 in Boise include Leif Verner, University of Idaho, who will speak on prune disorders; Bill Luce, Yakima, Wash., who will discuss new apple varieties and red sports; and Gerald Thorne, USDA nematologist, who will talk on nematodes in orchards, reports Anton S. Horn, secretary, Boise.

OREGON CHERRIES MAY FIND NEW MARKETS

OREGON growers of sweet cherries may soon find new markets for their fruit. The fruit fly problem which has banned shipment of Oregon-grown cherries to "fruit fly-free" states—notably California—may be licked.

S. C. Jones, Oregon State College entomologist, has found a way to fumigate sweet cherries to control cherry fruit fly larvae and pupae.

In fumigating tests last year, Jones killed every one of the fly larvae and pupae, using ethylene dibromide gas in the ratio of one-half pound of fumigant per 1,000 cubic feet for two hours.

While there was a slight off-flavor in the treated cherries, this diminished after the first day and was practically gone in four days.

If trials next year prove successful, an experimental shipment will probably be made to California for inspection.

NEW BERRY STRAINS MAY SOLVE DISEASE

FOUR new strains of the Northwest strawberry may prove to be the answer to a foliage speckle disease that has shown up in that variety in the last two years.

The new strains were developed by C. D. Schwartz and A. S. Myhre of the Western Washington Experiment Station. These men also developed the present commercial strain of the Northwest strawberry which now makes up nearly half of the state's commercial production.

"This leaf speckling showed up in 1952, and has been spreading ever since," explains Schwartz. "Although the virus-like disorder is by no means so devastating to berry production as yellows has been to the Marshall strawberry variety, it must be taken seriously. These four new strains don't seem to have the disease, and we hope they'll be the answer."

Commercial berry growers won't be able to get plants from the new strains for a couple of years. Before the situation becomes serious, however, there should be plenty of plants available. By 1957 the new strains should be producing 15 million plants annually, or enough to plant all new acreage of the Northwest variety.

ANALYZE PEAR LEAVES IN SOIL STUDY

IN an effort to learn why apparently high-nutrient soils sometimes fail to supply trees with needed plant food, Oregon State College experiment station workers have taken leaf samples from 80 Hood River pear orchards. The leaves will be analyzed chemically and later compared with soil samples from the area.

O. C. Compton, director of the survey, said that water supply, soil structure, and soil temperature all affect the availability of soil nutrients. The 80 orchards sampled are in the lower, middle, and upper valleys which vary widely in temperature and soil type. The survey will serve as a basis for fertilizer recommendations. —Robert Birdsall.

POLLEN...



Startling Results of Pollination in 1953

in John Dicus Orchard, Tonasket, Washington, as shown at left. There were no pollinators in this orchard and no previous crop from these 9-year-old trees. For \$200 spent on pollinating, earned \$3,000. Fruit growers in Canada and the United States are getting outstanding results from a number of methods of application: HAND BRUSH, POLE DUSTER, and BEEHIVE INSERT. An Idaho Grower gets results with the NEW HAND DUSTER idea on cherries. Pollen supplied for Walnuts, Apples, Pears, Cherries, Plums, Peaches, Apricots, etc. Pollination results in 1954 have been outstanding.

L. C. Antles, B.S., M.S.

Fruit Tree Pollen Supplies Co.

P.O. Box 1243, Wenatchee, Washington

Write us for information and instruction.



Unretouched Photo

delivers more spray MORE EFFICIENTLY!

For real crop protection, invest in a FRIEND AIRMASTER... the best friend a fruit grower can have. Best because it's big enough for any job. **BIG ENGINE**... 101 hp. Ford industrial; **BIG CAPACITY**... powerful, efficient FRIEND AXB pump that gets out 35 gpm of any type spray material; **BIG AIR VOLUME**...

... OVER 45,250 CUBIC FT. of air per minute means finely divided spray that penetrates the densest foliage with a minimum of run-off; **BIG SAVINGS**... from FRIEND'S simplified design that permits automatic one-man operation; from sturdy FRIEND construction for years of trouble-free operation; and from FRIEND'S low initial cost. Buy a FRIEND... you won't go wrong.

COMPARE

	Engine over 100 hp.	Air volume over 45,000 cfm.	Pump cap. over 34 gpm	Pump pressure over 700 lbs.	Dual Drive opera- tion	Costs more than Air- master
Airmaster*	yes	yes	yes	yes	yes	
Sprayer "A"*	yes	yes	yes	no	no	yes
Sprayer "B"*	no	no figures given by mfr.	no	no	no	yes
Sprayer "C"*	no	no figures given by mfr.	yes	no	no	yes
Sprayer "D"*	no	no figures given by mfr.	no	no	no	yes

*Figures taken from manufacturers' specifications.

**and you'll buy FRIEND, for only with FRIEND
do you get so much!**



MANUFACTURING CO., INC.
12 EAST STREET • GASPORT, N.Y.

Please send me information on

☐ Airmaster

☐ Your other orchard sprayers

Name.....

Address.....

Town..... State.....

Canadian Distributor — LEE Equipment Co., Stony Creek, Ont.

Marden Cutters are Cost Cutters!

**Cut Mowing Costs 75%
and Brush Disposal
Costs You Nothing!**

No damage to roots, fruit or limbs. For details, write today, giving make and model of tractor.

Marden Manufacturing Company
Auburndale, Florida

AMAZING TIRE SPECIALS!

FINEST USED TIRES! U. S., GOODYEAR, ETC.
EVERY TIRE FULLY GUARANTEED!
WE SELL ONLY ONE GRADE—THE FINEST!
FREE TUBE WITH EACH TIRE!
FOR RUSH SHIPMENT send check or M.O.
prices, F.O.B., Phila., Pa.

FINEST GRADE, 32 MONTHS GOLDEN RULE GUARANTEE

600-16	\$4.69	Low Pressure	Truck Tires
600-16(6)	5.99	550-15	\$4.69
650-16	5.09	640-15	4.69
650-16(6)	6.69	670-15	5.09
525-18	4.69	760-15	5.69
650-15	4.69	820-15	6.39
350-17	4.59	800-15	6.89
700-15	4.99	670-16	5.69
475-19	4.00	760-16	6.49
			1000-20
			20.49

Whitewalls \$1. ea. Extra

MILITARY MUD-SNOW TREADS

Std. Guar. 16 Mos.	Rugged Guar. 33 Mos.
750-20 Std. \$12.55	900-16 Std. \$12.95
750-20 Rg. 16.95	900-16 Rg. 16.00

ALL WINTER MUD-SNOW PASS. TIRES \$9.95

JAYDEE TIRE CO. Dept. AF, 3238 N. Franklin St., Philadelphia 33, Pennsylvania

FOR FINER FRUIT



Wiss Hy-Power Pruner

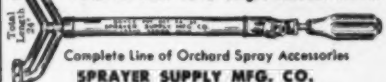
WISS PRUNERS
LOPPING SHEARS
ORANGE CLIPPERS

A Pruner for Every Purse and Purpose
Write for free illustrated catalog

Famous for Quality Since 1848 **J. Wiss & Sons Co.** NEWARK 7, N. J.

New Boyce Double Spray Gun

The Fan Shaped Spray Covers Better and Twice as Fast as a Single Nozzle Device



Complete Line of Orchard Spray Accessories

SPRAYER SUPPLY MFG. CO.

Grand Rapids, Mich.

COMPOUND LEVER TREE PRUNERS

TREE SURGERY SUPPLIES

TRADE MARK **COMPOUND** **BARTLETT MFG. CO.**
3044E GRAND BLVD.
DETROIT, MICH.



If it's for an orchard large or small we have it. We would like to send you our latest free catalogue!

Write to **Tyson Orchard Service**

A complete line of orchard tools, equipment and chemicals. **FLORA DALE, PA.**

Advertisement

NEW FOR YOU

1955 Airmaster



As new as the '55 cars is the new Airmaster airblast sprayer. Powered with a 101 HP Ford industrial engine and equipped with a 36-inch axial fan, it develops 45,250 cfm of air with a velocity of from 80-90 mph. The Airmaster can also work a hand spraying unit using the tractor power take-off. The pump is the ever popular Friend, producing 35 gpm. Overall cost is surprisingly low, and the 400-gallon all-steel tank makes for real orchard spraying economy. Write to Fred Ganshaw, Jr., Friend Manufacturing Co., Gasport, N. Y., and you will receive a full description. Actual demonstrations can also be arranged.

Utility Orchard Knife



The handiest pocket orchard tool I've seen in a long time is the "Slim-R" orchard knife. Made by a grower in Florida, it is ideal for budding, grafting, cutting bark, testing fruit, and many other jobs. Made of finest Soligen steel, the knife costs only \$3.50. A wonderful Christmas present for the grower. Write Bill Randall, Jr., Box 1988-G, Orlando, Fla.

PHIX Scab

A new organic mercury fungicide has been used with much success by Illinois growers this year. PHIX is a dry concentrate which makes for easy mixing and handling. Orchard-tested by growers and experiment station personnel in the northeast-



ern, north central, and eastern fruit

AMERICAN FRUIT GROWER



From where I sit ... *by Joe Marsh*

Granny Drives But Won't "Shift"

Saw Grandma Taylor parking her 1924 Franklin out front the other day. Neat as a pin, radiator and hub caps gleaming—the whole car is as shiny as the day she bought it 30 years ago.

Then I stopped and looked again—for there, hanging on the spare tire was a sign: "This car NOT for sale."

Asked Granny what was going on. "Joe," she says, "it's this craze for old cars. Everybody wants to buy my Franklin. But it has served me faithfully for years and it's not for sale at any price."

From where I sit, it's strictly the new cars for me—but Grandma Taylor, and others, are certainly welcome to their "old faithfuls." It's simply a question of personal preference. Same with a choice of beverages. For instance, I like a temperate glass of beer with supper. You may prefer coffee. Fine! The important thing is that we respect each other's choice—and "ride along smoothly" together.

Joe Marsh

Copyright, 1954, United States Brewers Foundation

- **FORK LIFT ATTACHMENT**
- **AIRMASTER SPRAYER**

growing regions of the country, PHIX has given outstanding performance both as an eradicant and as a protectant when combined with Crag 341. Dr. Morton Kleiman, Chemley Products Co., 14 E. Jackson Blvd., Chicago 4, Ill., will gladly send you information on this new chemical.

Lift for Tractors



Many a grower has been awaiting an attachment which will convert his tractor into a lift truck. The Sherman Fork Lift does the job easily and economically. Now designed to fit all Ford tractors, the fork lift operates hydraulically, lifting loads up to 4000 pounds 10 feet in the air. The unit looks ideal for orchard picking work and cold storage operations. Bob Humes, Sherman Products, Inc., Royal Oak, Mich., will send you full particulars.

Ideal Orchard Power



The other day I saw a new small crawler work in a muddy, hilly orchard. This little unit had unbelievable power, and pulled a Speed Sprayer fully loaded with water through the roughest spots with ease. The tractor is low, moving under branches easily. The driver has full forward vision, and in every way this small crawler looks ideal for the grower. The Kitty Krawler is available with a good selection of implements, and I suggest you write Neil Withrow, Agricultural Implement Division, 321 West "O" St., Lincoln, Nebr., for details.

DECEMBER, 1954

Phix[®] A SUPERIOR APPLE SCAB FUNGICIDE

PROVEN—in extensive experiment station tests and in commercial orchards.

HIGHLY EFFECTIVE—as an eradicant on an after-rain schedule and as a protectant in combination with glyodin or captan.

CONVENIENT to use.

MIXES EASILY with water.

COMPATIBLE with most spray chemicals.

SHELF LIFE unlimited in a dry location.

PHIX is a dry, concentrated, organic mercury fungicide, usable in hydraulic or concentrate sprayers.



PHIX can solve your scab problem.
Write for a descriptive folder.

CHEMLEY PRODUCTS COMPANY
14 East Jackson Blvd., Chicago 4, Ill.



*Trade Mark Registered

Henry Pruner
distributed in Ohio
By Karl Kuemmerling,
Box 248, Canton, Ohio.



NEW! NEW! NEW!
DIFFERENT—DIFFERENT

THIS NEW BOOM NOZZLE IS ENTIRELY DIFFERENT THAN CONVENTIONAL NOZZLES. BY MAKING A FLAT FAN SPRAY DISTANCES NEVER DREAMED OF ARE OBTAINED. ONLY A TEST CAN PROVE IT.

What fruit growers tell us.

"For many places your NEW BOOMS do better work than my expensive SPEED SPRAYER"
"I never knew what efficient spraying was until I used your BOOMS"
"I saved 15% of spray material with NEW BOOMS you furnished."

W. L. HAMILTON & CO.
BANGOR, MICH.

A Special, Light
Power Pruner
for Orchards,
Vineyards and
Citrus Groves—

"HENRY 600"

- Very fast action
- 3 times quicker than hand-pruning
- Full 1-inch cut
- Two lengths, 3' and 7 1/2'
- Light: 3' model weights but 5 lbs.
- Streamlined—no projections
- Rugged, simple, reliable
- Fully guaranteed
- Runs on 125-150 psi
- Low air consumption
- Savings pay for cost
- We also carry compressors, etc.
- Write for details now!



Pneumatic Pruner
Division

The Henry Company
2317A Whitney Avenue
Hamden 14, Connecticut

OPPORTUNITY ADS

Only 25c a word for one-time insertion; 20c a word for two-time insertion; 15c a word for four-time insertion—CASH WITH ORDER. Count each initial and whole number as one word. Address AMERICAN FRUIT GROWER, Willoughby, Ohio.

BABY CHICKS

CHICKS SOLD ON MORE PROFIT OR money back guarantee. Free catalog and chick guide. GREAT PLAINS HATCHERIES, Box 682, Effingham, Illinois.

BUSINESS OPPORTUNITIES

GROW MUSHROOMS. CELLAR, SHED, spare, full time, year round. We pay \$3.50 lb. We paid Babbitt \$4,165.00 in few weeks. FREE BOOK, WASHINGTON MUSHROOM IND., Dept. 127, 2954 Admiral Way, Seattle, Wash.

CHINCHILLAS. YOU RAISE THEM. WE buy them. Small capital can show terrific profits at home in spare time. Free booklet explains our lease plan. BOX #97, Little Neck, New York.

NEW PLASTIC MENDING TAPE. JUST press on! Repairs clothing instantly. Lightning seller. Samples sent on trial. KRISTEE 107, Akron, Ohio.

CIDER PRESSES

CIDER AND WINE PRESSES, HAND AND hydraulic, new and rebuilt. Repairs and supplies, clarifiers and filters. Pasteurizers and bottling equipment. Write for supply catalogue. W. G. RUNKLES' MACHINERY CO., 185 Oakland St., Trenton, N. J.

FOR SALE—EQUIPMENT AND SUPPLIES

GOOD USED FARM CONTAINERS—SPLINT handle baskets, bushels, boxes, hampers, bags, nailed and wirebound crates. Truckload or carlots. Call or write ZELVY BROS. CONTAINER CO., 2005 Orange Ave., Cleveland, Ohio.

GARDEN TRACTORS \$100.00. J.H.P. McLEAN TRACTORS, 324 West Tenth, Indianapolis, Indiana.

FOR SALE—REAL ESTATE

RETIREMENT HOMES, EASY PAYMENTS, nothing down: gardens, chickens, fishing, List free. PERY, Brierhill, Pa.

FRUIT PACKING PLANT

FOR LEASE WITH OPTION TO BUY OR for outright sale: Modern efficient fruit packing plant complete with all equipment. Included are 50,000 bushel cold storage, 2 fork lift trucks, 1100 pallets, 35,000 field crates, conveyors, grading equipment, and other equipment. Plant located in heart of South Western Michigan Fruit Belt. Now in daily operation. May be inspected at any time. For further information or to see plant call or write BANGOR FRUIT GROWERS' EXCHANGE, Bangor, Michigan, Phone 2131 or 3141.

HELP WANTED

POSITION OPEN FOR WORKING FARM manager on large apple farm with commercial cold storage in Hudson Valley. Salary plus percentage. Wonderful opportunity for young man willing to take full responsibility in a short time. Write AMERICAN FRUIT GROWER, Box 140.

HORSE TRAINING

"HOW TO BREAK AND TRAIN HORSES"—A book every farmer and horseman should have. It is free; no obligation. Simply address BEERY SCHOOL OF HORSEMANSHIP, Dept. 13812, Pleasant Hill, Ohio.

MEDICAL

FREE BOOK—PILES, FISTULA, COLON-stomach, associated conditions. Newest scientific procedures. THORNTON & MINOR HOSPITAL, Suite C-1212, Kansas City 9, Mo.

MISCELLANEOUS

FLOWER BULBS. CHOICE COMMERCIAL flower bulbs for commercial flower growing or resale. Descriptive lists and information free. Write for current list now. REGAL BULB CO., Holland, Mich.

LETTERHEADS, ENVELOPES, STATEMENTS, Tags. 200 for \$2.75 postpaid. REGAL PRESS, Crooksville, Ohio.

CORN CENTER DOIN'S



"You got me wrong, Maw—when I said 'Biggest thing I ever seen,' I meant those new B. F. Goodrich Power-Grip tires!"

It looks bigger—it *is* bigger! It's the powerful new B. F. Goodrich Power-Grip tractor tire, built with bigger cleats, bigger should-ers. Knife-action Power-Grip cleats bite deeper into the soil, take a firm grip for greater drawbar-pull. Count the cleats on different makes of tractor tires. Time after time you'll find that size for size BFG tires have more cleats. Husky Power-Grip should-ers wear longer because they're reinforced

at the base, aid traction because they take a non-slip hold on the soil. You get full traction in reverse or forward. Here's the tire that gives you more power for your money because it's bigger all around! See it at your B. F. Goodrich retailer's. The address is listed under Tires in the Yellow Pages of your phone book. Or write The B. F. Goodrich Company, Tire and Equipment Division, Akron 18, Ohio.

An advertisement of B. F. Goodrich—First in Rubber

WINES: MAKE YOUR OWN FROM GRAPES, raisins, berries. No special equipment needed. Printed directions. 25¢ coin. TIMBERLAKE ENTERPRISE, Box 1401, Denver 1, Colorado.

BERRY BOOK: "THIRTY YEARS OF Berries." Raspberries and Strawberries, 84 pages, price \$1. Postpaid. ROY TURNER, 315 Livingston St., Peoria, Ill.

"CIGARETTE HABIT BROKEN." GUARANTEED. RENCO INDUSTRIES, Box 433-A R 2, Turtle Creek, Pa.

LATEST WALNUT CRACKER, DIRECT from manufacturer. BENN THOMPSON, Harrisburg, Virginia.

PINKING SHEARS

ONLY \$1.95 POSTPAID. CHROMIUM plated, precision made. Manufacturer's Christmas overstock. Guaranteed \$7.95 value or money refunded. Order by mail. LINCOLN SURPLUS SALES, 1704 W. Farwell Ave., Chicago 26, Illinois.

POSITION WANTED

DUTCH GRADUATED FRUIT GROWER. Singe (26), 1 1/4 years experience fruit farm Quebec (manager), desires independent management elsewhere. KLAARS ROT, 427 Mainstreet, Granby, P.Q., Canada.

TRADE MARKS

NATIONAL TRADE MARK COMPANY, Munsey Building, Washington, D. C.

WANTED TO BUY

GOOD USED LIGHT WEIGHT CONCENTRATE sprayer, Buffalo Turbine or equivalent. C. F. VOYTECH, Rt. 1, Bloomingdale, Michigan.

PEAR PSYLLA

(Continued from page 12)

As the buds begin to swell the female psyllas begin to place their tiny yellow to white eggs in crevices in the twigs close to the buds. Later the eggs are placed on the leaves. These eggs later hatch into tiny psyllas, often called "nymphs." The nymphs move to the leaves, or more often to the leaf stems. There they produce honeydew in large quantities, in which they may be completely submerged.

At first the psylla nymphs are a yellow color, then they become greenish, and finally brown to black, when they are often referred to as "hardshells". The insect passes through three or four or more generations a year.

Control: Several insecticide sprays treatments are available for control. In some situations control for the season may be obtained by spraying late in the dormant period with oil emulsion, two to four per cent, as used for San Jose scale. The applications should be made after the first warm weather has brought out the overwintering psyllas, and on days when temperatures are about 50° or a little lower, when the insects are not too active and can be readily hit with the spray. The oil kills many of the adult psyllas, repels others and keeps them from laying eggs, and also kills many of the eggs.

If no dormant or delayed dormant spray has been applied, or if the insects increase unduly in spite of the dormant applications, summer sprays may be necessary. Until the late 1940's, chief dependence was on the use of nicotine, and this is still highly effective. Nicotine sulfate (40 per cent nicotine) is used at three-fourths pint to one pint per 100 gallons, combined with either two quarts of summer oil emulsion or with Bordeaux mixture.

In recent years several of the newer insecticides have also been found effective. The one in most general use is parathion, one-half pound of 15 per cent wettable powder per 100 gallons of water. This may be applied in late dormant period, but for the most part it is used during the summer, whenever the need for it develops. One or two applications during a season usually give good commercial control.

Parathion is a dangerous material to use, and operators should observe all precautions recommended by the manufacturer. In order to avoid objectionable residues, final application should be made not later than 14 days before harvest.

Other materials used effectively in some localities include certain of the dinitro materials applied during the dormant period, cube root with summer oil, toxaphene, EPN, and malathion.

Information on materials as well as on timing of spray applications for individual localities may be obtained from state extension services or experiment stations, or from local county agricultural agents.—B. A. Porter, USDA.

Motorists will be attracted to your roadside market—provided it is good-looking and well located. Working drawings for an attractive, easy-to-build stand are available for 50 cents from AMERICAN FRUIT GROWER, Willoughby, Ohio.



Send only \$1.00 for my proven Branch Rooting Pack postpaid with easy instructions and metallic wrappers for 10 branches. 6 packs for \$2.00. Success guaranteed.

ROBBINS GARDENS—SEC. 5

P.O. Box 1363 Jacksonville, Florida

FRUIT, NUT & DWARF TREES



Apples, Pears, Peaches, Prunes, Apricots, etc., Flowering and Shade Trees, Berry Plants.

Free in Price Catalog
SHERWOOD, ORE

TUALATIN VALLEY NURSERIES

Evergreen Lining-Out Stock

TRANSPLANTS and SEEDLINGS

Pine, Fir, Spruce, Canadian Hemlock, Arborvitae, in variety. For growing Christmas trees. Ornamental landscape, Hedges, Windbreaks, Forestry. Quality stock low as 2¢ each on quantity orders. Write for price list.
SUNCREST EVERGREEN NURSERIES, Dept. AFG, Box 305, Homer City, Pa.

DEPENDABLE FRUIT AND NUT TREES, SMALL FRUITS, ORNAMENTALS, and GENERAL NURSERY STOCK. WRITE FOR FREE CATALOG.

CUMBERLAND VALLEY NURSERIES, Inc.
Dept. 101 McMinnville, Tenn.

FRUIT TREES, STRAWBERRY, RASPBERRY AND BLUEBERRY PLANTS



Nut and Shade Trees, grape vines, flowering shrubs, evergreens. Over 80 years, through four generations, growing and distribution service to planters guarantees satisfaction. Our FREE 60 page catalog illustrates, describes complete nursery line, including dwarf trees.

Write today
BOUNTIFUL RIDGE NURSERIES
Box P-94, Princess Anne, Maryland

T. B. West & Son

MAPLE BEND NURSERY

FRUIT TREES ORNAMENTAL
SMALL FRUIT PLANTS TREES AND SHRUBS
Also Dwarfs in the Popular Varieties

PERRY, OHIO



STRAWBERRY PLANTS

Allen's 1955 Berry Book tells best varieties for home and market, and how to grow them. Free copy. Write today.

W. F. ALLEN COMPANY
105 West Evergreen Ave., Salisbury, Maryland

**PEACH
APPLE**

TREES LOW AS
20c

Cherries, Pears, Plums, Nut trees, Strawberries, Blueberries, etc. Grapes 10¢. Shrubs, Evergreens, Shade Trees, Roses 25¢ up. Quality stock can't be sold lower. Write for FREE color catalog and \$2.00 FREE bonus information.

TENNESSEE NURSERY CO., BOX 4, CLEVELAND, TENNESSEE

PRUNING TREES AND SHRUBS

by Ephraim Porter Felt

An ideal reference book for the small grower, or individual, on pruning of woody plants. Very well illustrated, and non technical. 229 pages.

Sent on receipt of \$3.00

AMERICAN FRUIT GROWER
Willoughby, Ohio

**A GOOD
beginning
is SO
important!**



A 2-yr. Old C&O Peach Orchard

Plant BETTER Varieties for GREATER Future Profits

Our varieties are all grower-approved . . . proven to bring you greater profits. Before planting, consider . . .

Some "C&O" Better Varieties:

***ROYAL RED DELICIOUS** (U. S. Pat. No. 1278) Sensational new sport of Richard Delicious. All the good qualities of that variety—plus earliest coloring of any Red Delicious.

***NERO RED ROME** (Pat. Appl. For) Outstanding new sport. Colors early, covering entire surface with double-striping of dark red under full color. Longer than any other Rome Beauty.

Complete Line of All Fruit Trees

*Now Sold Out. Booking Orders for 1955-56

FREE CATALOG

Color illustrated. Full selection fruit, shade, ornamental trees and shrubs.

Columbia & Canogan

NURSERY COMPANY

THE WENATCHEE NURSERIES
P.O. Box 116A, Wenatchee, Wash.
"49 Years of Service"

EXCLUSIVE PROPAGATORS & DISTRIBUTORS OF

VAN WELL NURSERY
Specializing in Quality Fruit Trees

★ **Red King* Delicious**

(PAT. PENDING)

"COLORS TWO WEEKS EARLY"

★ **Barkley Red Rome**

(PAT. PENDING)

MORE COLOR — HEAVY BEARER
EXCELLENT KEEPER

*T.M. REG.

**WRITE FOR
NEW COLOR**

**CATALOG OF HARDY,
VIGOROUS, EARLY BEARING,
FRUIT TREES**

VAN WELL NURSERY

Box 858

WENATCHEE, WASH.

**COMING — IMPORTANT
JANUARY YEAR-
BOOK ISSUE**

**FREE Neosho
Nurseries Catalog**



**AGENTS
WANTED**

Earn money for full or part time work. Ask for particulars.

**Better Fruit Trees
for 40 Years!**

Leading varieties of **APPLE, PEACH, CHERRY, PLUM, GRAPE.** Guaranteed hardy, disease resistant. **Free Catalog.** 48 pages of money-saving offers, fruits, roses, shade trees, ornamentals, etc.—shown in natural color. Write today.

NEOSHO NURSERIES CO. Dept. B
Neosho, Mo.



Free

**SIMS BIG NEW
CATALOG OF
Orchard Tested
FRUIT TREES**

★

Complete line of:
Berry Plants
Shrubs
Evergreens
Shade Trees
Garden
Roots
Nut Trees

Be Sure of your varieties. Get SIMS big new free catalogue and order direct from SIMS. You'll get the very best variety characteristics and stock propagated from bearing orchards—new and improved varieties are listed and many bargains. Special prices to commercial growers. Send for catalogue today.

SIMS NURSERIES Hannibal 2, Mo.

Marketing Agreements Again

CHERRY growers of Michigan have finally taken the bit in their teeth. They have taken steps to secure protection either under the Federal Agricultural Marketing Act or some Michigan state regulation which will protect them against federal prosecution for carrying on practices which they feel essential to the success of their business.

It has taken a long time, but little by little the "little fellow" has come to realize that there is such a thing as cutting off one's nose to spite one's face. This is what the fruit industry east of the Rocky Mountains has been inclined to do.

To be sure, there is much in the Federal Agricultural Marketing Act which is objectionable to many. Nobody likes to be controlled by a bureaucrat. Nobody likes to be told what he can and what he cannot do. Some regimentation practices are enough not only to make the blood pressure reach dangerously high but actually to "blow the top," to put it plainly.

But here is where the misunderstanding has been. Too many fruit growers, especially those east of the Rocky Mountains, have been led to believe that the Agricultural Marketing Act deals solely with acreages, allotments, and controls. This is not so. It is an act which permits growers to get together to solve their own problems and to carry out certain operations which might otherwise be denied by federal antitrust laws. It makes it possible for growers to do under the law that for which they might otherwise be subject to prosecution.

The situation is something like the man who takes out a patent on an invention or gets a copyright on a book. Both of these acts are in restraint of trade and subject to prosecution except for the fact that they are made exceptions under the law and are thereby both permitted and encouraged. We all call this enlightenment and progress, and surely it is.

This is why the action of Michigan cherry growers is to be commended. It means that fruit growers are beginning to inquire quite properly into some of their rights and privileges. It means that they have begun to question whether some of the advice

which they have been receiving may not have been given more in terms of politics than of helping the fruit industry.

There are still more questions that need to be asked, such as why eastern apples were specifically excluded from receiving benefits under the law, and why processed foods were excluded. In whose self interest were these actions taken? Another question is why growers have been led to believe they cannot find ways under the law to get together to talk prices and to carry on other legitimate activities without fear of prosecution.

Yes, there is much in the marketing act and in state marketing agreements that does not apply to the fruit grower and which the fruit grower wants none of. AMERICAN FRUIT GROWER has repeatedly called this to attention. On the other hand, there are some features that can be used to good advantage. This, too, AMERICAN FRUIT GROWER has been pointing out. Seldom is a matter entirely black; there are often some bright spots. It is good that Michigan cherry growers have seen this and that they are taking positive steps.

Merry Christmas

WE approach the Christmas season with a prayer that those who had good crops this year will have better ones next and those whose trees were struck by calamity will have bumper crops next harvest. To all our readers we wish a Merry Christmas and a Happy Prosperous New Year.

Fruit Growing is Such Fun!



Fruit Talk

The Pacific Fruit Express has in operation a "push button refrigerator car icing service." A man simply pushes buttons to cause 300-pound cakes of ice to be chewed into smaller chunks, which then move along conveyor belts and are dropped at the flick of a finger into cars in the volume desired. At full speed, forty 300-pound cakes of ice may be put into a bunker within a minute.

Dr. C. E. Myers, nationally known plant breeder, has an apple tree at his home in State College, Pa., which boasts 48 varieties, 27 of which bore fruit in 1954. Dr. Myers claims fresh apples from July 25 of one year to June 10 of the next.

Records from Italy show that there were 16- and 32-year cycles in the production of grapes for the years 1773 to 1842. This coincides with the cycle of sun spots.

A clever development from Germany is a nutrient tablet which when put into a water culture of pot plants slowly evolves oxygen, an element so essential to root development but frequently lacking in water cultures.

The Exact Weight Scale Company of Columbus, Ohio, has perfected a machine for bagging apples which consists of a belt conveyor on which the fruits are weighed as they move along. When the proper weight is reached, the feed hopper stops but the belt continues to run, emptying the desired weight of fruit into the bag.

In round figures, the total world cherry production is one and one-fourth million tons, of which Europe produces one million tons and North America one-fourth million. Germany (western zone and eastern zone combined) produces about as many cherries as the United States.

Indicative of how plants may be spread around the world are recent studies which show that the white-flowered gourd is capable of floating for periods up to 224 days in salt water without having the viability of the seed appreciably impaired. This suggests that this gourd came to America from Africa on South Atlantic ocean currents.

As an average of all agricultural products, the farmer receives 33⅓ per cent of the consumer's dollar. For foodstuffs he receives 45 per cent, for tobacco products 16 per cent, for cotton products 12 per cent, and for alcoholic beverages only 5 per cent.

It is estimated that approximately 98 per cent of the California lemon crop and about 80 per cent of the California-Arizona lettuce shipments are now packaged in fiberboard cartons, compared to about 10 per cent for both commodities two years ago.

Something for everyone to ponder upon:

"God hath spoken once; twice have I heard this: that power belongeth unto God."
—H.B.T.

Coming Next Month

- Fifth Annual Yearbook Issue featuring
- Reviews and Forecasts for Tree Fruits, Berries, Grapes
- New Fruit Varieties
- Blossom and Harvest Queens
- Which Apple Pack Is Best?
- Film Liners for Pears

You'll be ahead for years with the DIFFERENCES



Note the level, deep-cut discing of the Allis-Chalmers Model J Offset Disc Harrow behind the HD-5. Disc harrow differences are big, too. Here is disc-gang lubrication good for the life of the blades.

. . . in this Rugged Crawler Tractor

You'll be hours and dollars ahead on each operation with the working advantages of the powerful Allis-Chalmers HD-5. Consider the *different* features that pay off every day, every year.

Starting of this modern diesel tractor is fast, electric. Due to its sealed bearings, track lubrication lasts for 1,000 hours. Internal inspection and service are quickly done because of accessible, unit-type assemblies.

More working time is gained, too, by the HD-5's simple, smooth operator control and load-matched working speeds.

These are examples of Allis-Chalmers fea-

tures that pile up your tractor savings as the months go by. They come in addition to the HD-5's advanced engineering that delivers more track on the ground . . . more tractor on the tracks.

Fruit growers are discovering there's a difference that doesn't show up in just tractor weight, horsepower and price. Ask your Allis-Chalmers dealer to show you the many extra HD-5 working values.

ALLIS-CHALMERS
TRACTOR DIVISION • MILWAUKEE 1, U. S. A.



Follow The Lead **OF LEADING GROWERS!**

Better growers everywhere are now using the powerful new Niagara Liqui-Duster for all-season, all-weather protection. With it, they can dust in wet weather and liqui-dust in dry seasons to gain maximum adhesion and control. They also find it the ideal machine to apply concentrates.

The large dust discharge area plus a powerful air blast assures even distribution—no blotching on the outer areas of trees—com-

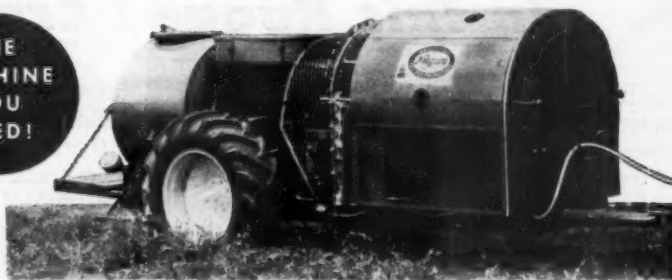
plete coverage with less material.

The Niagara Liqui-Duster requires much less water than a big sprayer. The lighter weight makes it easy to maneuver, even in heavy going. One man can readily control this machine from the seat of a medium duty tractor.

The large acreage capacity of the Niagara Liqui-Duster permits quick coverage of extensive orchards.

THE
MACHINE
YOU
NEED!

Write For Catalog



Niagara

CHEMICAL DIVISION

FOOD MACHINERY AND CHEMICAL CORPORATION

Middleport, N.Y., Richmond, Calif., Jacksonville, Fla., Tampa, Fla., Pompano, Fla.,
Wyoming, Ill., New Orleans, La., Ayer, Mass., Greenville, Miss., Harlingen, Tex.,
Pecos, Tex., Yakima, Wash., Subsidiary: Pine Bluff Chemical Co., Pine Bluff, Ark.
Canadian Associate: NIAGARA BRAND SPRAY CO., LTD., Burlington, Ontario.



50
YEARS OF SERVICE